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More Pulp Made and Used in First Quarter

Preliminary Figures Show Increased Production and Consumption With Forecast of Acute Shortage In Unbleached Sulphite Before End of Year—Rise In Output Not Fully Offsets Import Drop.

Preliminary nationwide pulp industry figures for the first quarter show increases in both production and consumption, drastic decrease in imports, demand straining supply, and forecast acute shortage in unbleached sulphite pulp, thus tending to confirm earlier appraisals of chemical pulp trends in 1941, according to a statement made May 5 by Ossian Anderson, president of the Puget Sound Pulp and Timber Company.

"Production of all chemical grades amounted to 1,891,566 tons for the first three months of 1941, compared with 1,645,615 tons in the same period of 1940. Unbleached sulphite production of 268,774 tons compared with 224,515 tons in the first quarter of 1940," Mr. Anderson said.

Imports of 196,201 tons of all chemical grades, he stated, represented a drop of 257,235 tons compared with 453,236 tons imported in the first quarter last year. Unbleached sulphite imports at 62,004 tons were fully 109,338 tons below first quarter arrivals last year.

"Coupled with this," Anderson declared, "was an increase in United States exports, so that our import balance, comparing first quarters of 1941 and 1940, showed a decline of some 273,077 tons, of which 114,918 tons was in unbleached sulphite.

"Since the gain in production did not fully offset the loss in import balance, the net result for the quarter was that 27,136 fewer tons of all chemical grades combined and 70,659 fewer tons of unbleached sulphite became available for domestic consumption than in the corresponding quarter last year. Coupled with increasing consumption this means a diminishing reserve supply."

Mr. Anderson referred to American Paper and Pulp Association's recent warning that "If pulp stocks are allowed to diminish to the point where reserves are insufficient to meet such a demand (national defense and industrial requirements) a critical shortage might develop for a few months before domestic and Canadian producers could step up production and shipments to meet this excessive drain on stock reserves."

He asserted that the pulp industry is already operating at close to 100% of capacity in its effort to cope with the situation, but even so a decrease in stocks on hand seems inevitable this year. He called attention to the recent declaration of the U. S. Department of Commerce which stated, "It is generally accepted that the most serious supply problem exists with unbleached sulphite pulp, of which 50% of our requirements are normally imported. With paper and pulp consumption rising, it is believed that many manufacturers using unbleached sulphite pulp will face an acute supply problem before the end of 1941."

J. R. Weddell Goes With Union Bag

The appointment of Justin R. Weddell as assistant to the president of Union Bag and Paper Corporation has just been announced. Mr. Weddell has had wide business experience, principally in the advertising and graphic arts fields, for more than thirty years.

For the past ten years, Mr. Weddell has represented American advertising interests in Europe. Until September, 1939, he served as European representative of Erwin Wasey & Co., Ltd., in London. At the outbreak of war, he became managing director of N. W. Ayer & Son, Ltd., London, returning to this country in October, 1940. For the past eight years, he has served as a director of the American Chamber of Commerce in London, and as vice-president since 1936.

At the recent annual meeting of the United States Chamber of Commerce, Mr. Weddell was the principal speaker at the dinner for American Chambers of Commerce Abroad. His remarks dealt with the adjustment of English business to war conditions, with special reference to the post-war problems that will face British and American business alike. An article entitled "Take a Look at England" appears in the May issue of *Printer's Ink Monthly*, in which Mr. Weddell outlines the effect of "total defense" in England on advertising and merchandising.

Last year Mr. Weddell served as chairman of the American Committee for the Evacuation of Children in London.

Sangamon Plans to Start Second Machine

Concern Which Started Operations In Former Patten Paper Co.'s Outagamie Mill This Year Contemplates Increasing Production— Wisconsin and Fox Rivers Safety Meetings — Other Late News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 12, 1941—Operation of a second machine is contemplated in the near future by the Sangamon Paper Company, Kaukauna, Wis., according to announcement made by Samuel J. Cohen, general manager. The common council of Kaukauna has under consideration a proposal to assist with the financing of expanded operations to the amount of $10,000, and as soon as a decision is reached some arrangements along this line will be made.

Started Operating First of Year

The company started operations about the first of the year in the Outagamie mill of the former Patten Paper Company, after purchasing it from the City of Kaukauna, which had acquired it in payment of delinquent taxes. The mill has two Fourdriniers, 70- and 80-inch, and has kept one busy on drawing and railroad manilas, colored specialties and ticket stock, utilizing largely waste paper for raw materials. Thirty-two men are now employed, and 20 more will be added to operate the second machine, with an annual payroll increase of about $17,000.

Wisconsin River Safety Meeting on June 5

June 5 has been set as the date for the eleventh annual Wisconsin River Valley Safety Conference at Stevens Point, Wis., expected to draw an attendance of more than 1,000.

A general session will be held in the morning at P. J. Jacobs high school auditorium. Speakers and their subjects will be: "Proper Care and Treatment of Minor Injuries," Dr. Norbert Enzer, Milwaukee, Wis.; "The How, When, Where and Why of Eye Protection," Harry Guilbert, director of safety and compensation, the Pullman Company, Chicago; "Highway Safety and Its Application to Industry," John J. Hall, director of Street and Highway division, National Conservation Bureau, New York City; "Chapter 85," R. C. Salisbury, safety director, Wisconsin Motor Vehicle Division.

One of the sectional meetings opening at 1:30 in the afternoon will be devoted to the pulp and paper industry, with J. J. Plzak, claims manager of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., as chairman, and Oscar Duus, Tomahawk Kraft Paper Company, Tomahawk, Wis., and Harry Adrian, mill manager for Consolidated at Stevens Point, Wis., as co-chairmen.

First on the program will be a panel discussion on "The Personal Element in Accident Prevention." Participants will be: Mr. Plzak as leader; Leo Barrette, Consolidated Company; A. J. Sinder, Wisconsin River Paper and Pulp Company, Stevens Point, Wis.; Franz Rosebush, Nekoosa-Edwards Paper Company, Port Edwards, Wis.; Arnold Wachs, Mosinee Paper Mills Company, Mosinee, Wis.; Arnold Penning, Tomahawk Kraft Paper Company; Clayton Bratz, Marathon Paper Mills Company, Rothschild, Wis.; F. C. Horn, Whiting-Plover Paper Company, Stevens Point, and Merlin Carver, Wisconsin River Company.

Two addresses also are scheduled for the paper group. Harry Nelson, director of workmen's compensation for the Wisconsin Industrial Commission, will speak on "Occupational Disease Hazards in Pulp and Paper Mills and Their Control." Voyta Wrabetz, chairman of the industrial commission, will present "Wisconsin Industrial Safety Codes—Education and Enforcement."

The conference will conclude with an banquet in the evening at St. Peter's auditorium, with Captain Nicholson of the Texas Company, New York City, giving the address. His subject will be "Moral Building for Safety." The men's glee club of Central State Teachers College will entertain.

Fox River Safety Meeting on May 22

L. C. Smith, personnel manager of Thilmany Pulp and Paper Company, Kaukauna, Wis., will be chairman of the pulp and paper section of the Fox River Valley and Lake Shore Safety Conference to be held at Fond du Lac, Wis., Thursday, May 22. He will be assisted as co-chairman by H. F. Hackworthy of the Combined Locks Paper Company, Combined Locks, Wis. The sectional meeting will be held in the afternoon, with L. J. Barrette of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., as the principal speaker. His subject will be "Safety Education." Electrical demonstrations and table discussions will follow.

This year there will be a group meeting for the paper products and finishing section, with J. A. Long, Green Bay, Wis., as chairman and H. D. Purdy of the Tuttle Press Company, Appleton, Wis., as co-chairman. Speakers will be G. E. Wellnitz, Chicago, on "How to Do It," and George E. Burns, National Safety Council, Chicago, on "Safety in Defense," illustrated with a sound slide film.

W. E. Rutz of Fond du Lac, will be chairman of the personnel and safety directors' section, at which Harry A. Nelson, director of the workmen's compensation department, Wisconsin Industrial Commission, will speak on "Workmen's Compensation and Workmen's Conditions Under the National Defense Program."

"Reds" Lead Thilmany Safety Contest

In a mill safety contest started January 1 between the "Reds" and "Blues," employees of the Thilmany Pulp and Paper Company, Kaukauna, Wis., are working for the winning record at the conclusion June 30. As of April 30, the Reds regained the lead, with 9,984 points out of 10,000 and the Blues have a score of 9,939. Purchase of safety shoes by a number of the workmen on each side helped to increase the scores. The Reds completed one 30-day period without a lost-time accident.

Efforts to Sell Abitibi May Be Resumed

Power of Ontario Legislature To Stay Judicial Sale of Assets of Abitibi Power & Paper Co. Questioned—Bondholders' Committee May Renew Application For Sale and Start New Legal Battle.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., May 12, 1941—Has the Ontario legislature exceeded its powers in attempting to stay a judicial sale of the assets of Abitibi Power and Paper Company? There is a widely-held opinion, both among the laity and the legal profession, that the Moratorium Act invoked by the Province is ultra vires. The matter is being studied by legal experts representing the bondholders' committee, and upon the result of their final conclusions rests the answer to the question whether or not the bondholders' committee will proceed to assert their rights by renewing the application, through the Montreal Trust Company, for a new sale.

There appears to be more than one course open to the bondholders' committee and study is being made of the possibilities of each in the light of the recommendations of the Royal Commission and the subsequent Provincial legislation declaring a moratorium on any further action on the bond mortgage.

Bondholders Could Accept Moratorium Act

According to some of those well versed in the matter, the bondholders' committee could accept the Moratorium Act and permit the receivership to continue; at least until some other interests came along with a scheme for reorganization duly adopted by junior security shareholders, or, on the other hand, the Symington committee could go ahead with its announced plans for a mortgage sale.

It is understood that the committee favors the latter course, but this depends upon the ultimate conclusions concerning the validity of the Moratorium Act. It is the contention of some of the learned counsel that Ontario has no power to stay an action such as the one in question, to hold a mortgage sale of the assets of Abitibi, which is initiated under federal legislation. Study is being given to this aspect of the question, it is understood, both by members of the committee and by its regular legal counsel as well as by eminent outside counsel. On the final outcome of this study will probably depend whether or not the committee decides to go ahead and ask the courts to set another date for the sale.

Former Application For Sale Deferred

It will be remembered that application of the Montreal Trust Company for a new sale, following the abortive attempt to complete a sale in October last, was adjourned in December, subject to renewal at any time on seven days' notice. Thus, in order to start the machinery moving for a new trial it would only be necessary to renew the application already before the court.

The whole legal position of the company and its various committees is still obscure, but the fact that Abitibi is an incorporated Ontario company and has by far the greatest proportion of its properties in this province, has a bearing on the case and lends strength to the arguments of those who contend that the Ontario legislature was well within its rights in proclaiming the Moratorium Act.

Another important factor is the question of public relations involved. The committee has an initial responsibility to its depositors who have pledged their support of the plan to hold a judicial sale to the extent of over 88% of all outstanding Abitibi bonds. What the public reaction might be to renewal of the attempt to settle the Abitibi bankruptcy by judicial sale proceedings is something which the committee has to consider.

McTague Report Not Favored

The bondholders' committee, headed by H. J. Symington, makes no secret of the fact that it does not like the recommendations included in the report of the McTague Commission. It regards as unfair any scheme that permits the shareholders to get the company back under control merely by paying current interest for five years without specific provision for sinking fund or definite provision for present arrears of interest.

Spokesmen for the shareholders, on the other hand, see in the Royal Commission's scheme a chance that failure to maintain working capital at $10.5 millions for six months is a threat that they would be wiped out by the event of a few months' poor earnings. In that case, they think, the quit claim would become effective, giving bondholders full title to the assets.

The bondholders' committee takes exception to cutting off interest accumulations as at Dec. 31, 1940, when no definite provision has been made for settling previous accumulations.

Company Owes Over $76,000,000

As at June 1, 1941, there will be over $76 millions owing to bondholders for principal, interest and interest on overdue interest. This does not include the liability to meet this debt in United States funds according to the bond indenture. If the United States premium is added, the amount due bondholders as at June 1 next grows to just under $85 millions.

Undoubtedly, to renew the application for a judicial sale of the Abitibi Company would precipitate an involved legal battle. Such action would apparently have to be based on the interpretation of the legality or otherwise of the Abitibi Power & Paper Moratorium Act, 1941. This would be a matter for the courts to decide and in this alone a legal contest is almost assured.

Millcraft to be Agent for Eastern Corp.

The Eastern Corporation, Bangor, Me., announces the appointment of the Millcraft Paper Company to be its merchant agent in Fort Wayne, Ind.

New Gargoyle Made to Order

WHEN THINGS GET TOO HOT for the oil in your dryer roll bearings, you're risking breakdown and long hours of costly repairs.

That's where new Gargoyle Vacuoline Oils are made to order. With these oils, the accent is on stability—at all temperatures.

Even under intense dryer heat, Vacuoline Oils won't break down or thin out dangerously. They resist oxidation and formation of sludge in dryer bearings.

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THE RIGHT OIL FOR EACH JOB • NEW LUBRICANTS AHEAD OF NEW NEEDS •

SOCONY-VACUUM OIL COMPANY, INC. • Standard Oil of New York Div. White Star Div. • Lubrite Div. • Chicago Div. • White Eagle Div. • Wadhams Div. • Magnolia Petroleum Co. • General Petroleum Corp. of Calif.

Chicago Reports Expanding Paper Demand

Book and Cover Papers Reflect More Activity With Sales In Many Lines of Paper, Board, and Specialties On Uptrend — Illinois Assembly Kills Wage-Hour Proposals—N.P.T.A. To Meet June 5.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., May 12, 1941—The Chicago paper market news is a virtual repetition of that of last week. Markets went pounding ahead with the action of the bond group into higher fields providing a very strong effect on other grades. Demand continued to expand materially and all grades were reported bouncing over the old list prices which have been threatened for some weeks. Books and covers showed more than usual gains during the week with the Spring upturn in buying showing results. Groundwoods and newsprints likewise took up about all remaining slack according to reports. The bond and ledger market was reported to have held and expanded last week's gains. The board market was strong and specialties were said to have had a very good week. Waste papers stayed strong, with higher grades continuing to show the way. Krafts, long the leader in the current reaction to the raw material and cost factors, continued to zoom ahead in exceedingly strong fashion.

Assembly Kills Wage-Hour Proposals

The Illinois General Assembly this week seemed to have written "finis" to proposed State Wage-Hour legislation which concerned retailers, jobbers and manufacturers of paper in this State. Two weeks ago the Senate Committee tabled the measure. This week the House Industrial Affairs Committee took similar action and, unless something quite unforeseen happens, Illinois joins the many other States which have frowned on this experimental measure to put States under the double ban of Federal and State wage-hour regulations. Meanwhile neither the committees working on amendments to the unemployment insurance act nor on the changes in the workmen's compensation and occupational disease statutes have given any evidence of being ready to report back to the Legislature on agreed programs. It is expected that the session may "wind up" by June 20 with July 1 as the positive deadline.

Merchants Add New Lines

The J. W. Butler Paper Company recently reported the addition of three new lines including Cellugloss Coated Book made by the Bryant Paper Company; Recorder Onion Skin from the mills of the Esleeck Manufacturing Company and Strathmore Pastelle, manufactured by the Strathmore Paper Company. The Swigart Paper Company is reported to have likewise added the latter two lines.

Buchanan Heads Whitaker Division

C. L. Buchanan, veteran Whitaker Paper Company sales executive, is to take the place of John T. Hillyer, deceased, in the management of the Chicago office of that company. Mr. Buchanan will assume general sales management duties over territory in Iowa, northern Illinois and southern Wisconsin. He has been identified with Whitaker for over 25 years, a good part of the time has been closely associated with Mr. Hillyer in the Chicago office and in the development of sales in the territory which he will now cover. Mr. Buchanan is widely known in the trade.

Paper Men To Attend Conference

Quite a few Chicago sales executives are planning to attend the combination N.P.T.A. quarterly regional meeting and the annual confab of the Paper and Twine Club, both slated for Lake Wawasee, Indiana, from June 5 to June 8. The regional session will take the first day and one half while the Paper and Twine Group will concentrate on Saturday morning with guests including manufacturers and merchants as well as members representing these factors in the trade. The annual golf tournament will take place on Friday and Saturday afternoons with the Club again offering a fine list of prizes for the par shooters. According to John L. Richey, secretary-treasurer of the Paper and Twine Club, the Chicago delegation will be about the largest in history.

Corrugated Containers Build

George J. Schneider, formerly president and general manager of Anchor Container Corporation, Long Island City, is now vice-president and general manager in charge of Corrugated Kraft Containers, Inc. of Oakland, Cal. Anchor Container Corporation and Corrugated Kraft Containers, Inc. are subsidiaries of National Container Corporation of Jacksonville, Fla., and Long Island City, N. Y., of which Samuel Kipnis is president.

Just as the Corrugated Kraft Containers, Inc. started operations in its plant at Oakland, the Army took over the entire section, including the building in which they were located. They are being allowed to operate in a portion of the building while a new factory is under construction in Oakland's western waterfront, between Ferry and Terminal streets on Seventh street. It will be known as Terminal Building "F". It will consist of a one-story building, except for second floor offices at the front end. The building will cost approximately $250,000 to build. It will be 640 feet long, 200 feet wide and is scheduled for completion within 120 days from the day that the piles were first driven which was about March 1, according to A. H. Abel of the Board of Port Commissioners.

To Distribute Escort Bond

The Hudson Valley Paper Company of Albany and the Troy Paper Corporation of Troy, N. Y., have been appointed distributors of Escort Bond. Both agents now have stocks and are distributing attractive advertising and sample material relating to this 50% rag product of the L. L. Brown Paper Company, Adams, Mass.

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- FINISH
- LONG LIFE

SKANEATELES FALLS, N. Y.
is recognized as the home of the finest quality felts.

Throughout the nation, wherever skilled workmen are striving to produce the best quality papers—papers of standard, uniform quality—and at lower production cost, there you will find felts being used that were made in SKANEATELES FALLS, N. Y.

The greatest tribute that can be paid to the quality and dependable service of our felts is the fact that they are preferred by the men at the machines.

For speed, long life, dependable service and the finest finish, be sure to select felts made in SKANEATELES FALLS, N. Y.

Write us for information

The Waterbury Felt Co.
SKANEATELES FALLS, N. Y.

Bids and Awards for Government Papers

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 14, 1941—Butler Paper Company has been awarded the contract for furnishing the Government Printing Office with 55,775 pounds (194,000 sheets) of 42 x 64, 50% rag, white bond paper at 10.29 cents. Eastern Corp. will furnish 119,458 pounds (428,167 sheets) of 48 x 68 white sulphite writing paper at 6.3 cents. Aetna Paper Company will furnish 3,552 pounds of white, 25% rag, 38 x 56 bond paper at 13.3 cents. Same company will also furnish 3,553 pounds same yellow at 13.3 cents and also 3,553 pounds same, pink, at 12.15 cents. Bids for all of these items were received on April 29.

Barton, Duer & Koch Paper Company will furnish 11,171 pounds (67,500 sheets) of 36½ x 53 white sulphite writing paper at 6.75 cents, bids for which were received on April 28.

Whitaker Paper Company will furnish 10,000 sheets of 22 x 28 gray mount board at $36.32 per M sheets. Mudge Paper Company will furnish 11,358 pounds of white M.F. book paper in 38 inch rolls. Bids for both of these items were received on April 25.

Marquette Paper Company will furnish 196,872 pounds of white sulphite writing paper in 48 inch rolls, Sub. 32, at 6.52 cents. R. P. Andrews Paper Company will furnish 301,470 pounds of same Sub. 40 at 5.84 cents, bids for which were received on April 23.

Aetna Paper Company will furnish 48,240 pounds of 25% rag, white bond paper in 24 inch rolls at 9.72 cents and Mudge Paper Company will furnish 6,234 pounds of 50% rag, 38 x 46 green ledger paper at 11.55 cents, bids for which were received on April 21.

Marquette Paper Company will furnish 151,200 pounds of 45 x 52 white sulphite writing paper at 6.44 cents and Barton, Duer & Koch Paper Company will furnish 9,167 pounds of 34 x 50 white sulphite writing paper at 6.16 cents. Bids for these items were received on April 18.

Mudge Paper Company will furnish 5,820 pounds of 21 x 32½ buff sulphite index paper at 7.18 cents, bids for which were received on April 16.

Government Printing Office has received the following bids for 6,100 pounds of 28 x 34 white sulphite writing paper: Barton, Duer & Koch Paper Company, 6.78 cents; Stanford Paper Company, 6.85 cents; Mudge Paper Company, 6.73 cents; Marquette Paper Company, 6.97 cents; and Eastern Corp., 6.64 cents.

For 55,727 pounds of 48½ x 73½ sulphite writing paper, blue and yellow: Stanford Paper Company, 7.25 cents; Eastern Corp., 7.61 cents; and Cauthorne Paper Company, 7.25 cents.

For 40,000 pounds of white sulphite writing paper in 25½ inch rolls: R. P. Andrews Paper Company, 6.54 cents; Stanford Paper Company, 6.5 cents; Mudge Paper Company, 6.47 cents; Perkins-Goodwin Company, 6.17 cents; Marquette Paper Company, 6.46 cents; and Eastern Corp., 6.06 cents.

For 52,624 pounds of 33 x 72 green bristol board: Whitaker Paper Company, 5.86 cents; R. P. Andrews Paper Company, 5.75 cents; and Barton, Duer & Koch Paper Company, 5.95 cents.

For 46,410 pounds of 43 x 66 yellow sulphite manifold paper: Graham Paper Company, 9 cents; Marquette Paper Company, 8.97 cents; and Paper Corp. of U. S., 10.6 cents.

For 15,000 pounds of binders board: Mathers-Lamm Paper Company, 3.5825 cents; R. P. Andrews Paper Company, 3.85 cents; Barton, Duer & Koch Paper Company, 4 cents; Consolidated Paper Company, 4.01 cents less 2%.

For 2,286 pounds (83,650 sheets) of 50% rag, 25 x 32 white glazed manifold paper: Barton, Duer & Koch Paper Company, 17.5 cents.

For 6,050 sheets of 19 x 28 brown cloth lined cover paper: Mudge Paper Company, $88.79 per M sheets; Whitaker Paper Company, $90.70 less 2%; Barton, Duer & Koch Paper Company, $88.82.

For 11,850 pounds of 36 x 44, 50% rag, lithographic finish map paper and 80,850 pounds same, 36 x 50: R. P. Andrews Paper Company, 12.4 cents; Stanford Paper Company, 11.4 cents; Mudge Paper Company, 11.864 cents; Paper Corporation of U. S., 12.47 cents; and Cauthorne Paper Company, 12.4 cents.

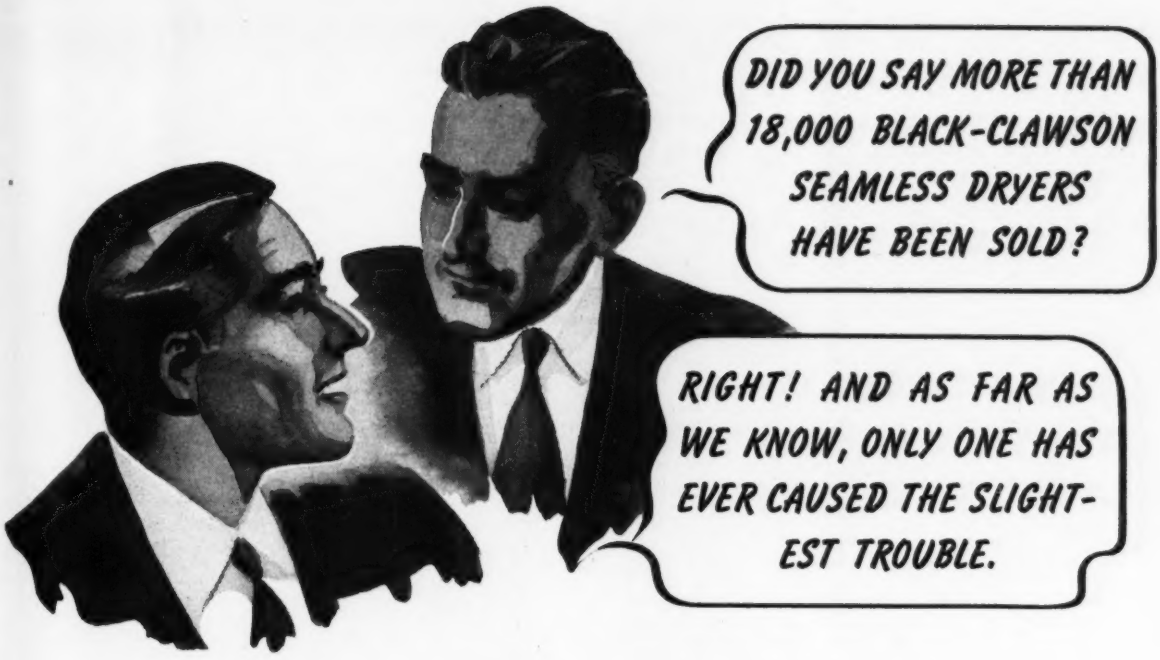
To Draw Water from Sacandaga

GLENS FALLS, N. Y., May 12, 1941—Drouth conditions in this section which threatened to halt production in numerous manufacturing plants now running at capacity on defense orders have resulted in the Hudson River Regulating Board authorizing the withdrawal of water from the huge Sacandaga reservoir in order to keep the wheels of industry going. Mills in this city, Hadley, Corinth and other points along the upper Hudson River, which depend upon hydro-electric power, appealed to the board for assistance when it became increasingly obvious that the flow of the river now would not be sufficient to maintain the necessary power. By late April the flow of the river at Hadley was below the capacity of the mills and power plants depending upon this hydro energy, the water reaching an unbelievable low for this time of the year. An official of the Regulating Board stated that the Sacandaga and Hudson Rivers are experiencing the most serious drouth for this time of the year in their known history. The level of the huge reservoir is about twelve feet below normal but the board determined by resolution to authorize the withdrawal of a quantity of water sufficient to enable the mills to keep operating.

J. H. Richmond Returns from Coast

After covering over 10,000 miles and 21 states, J. Henry Richmond has returned from a seven week automobile business trip of the United States during which he called on paper converters, principally west of the Mississippi. Mr. Richmond reports intense activity in the paper converting field, particularly on the West Coast where paper products machinery seems to be in as great demand as other industrial equipment.

Mr. Richmond, who is assistant sales manager of Potdevin Machine Company, manufacturer of paper converting and printing equipment, reports a very successful trip.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RIGHT! AND AS FAR AS WE KNOW, ONLY ONE HAS EVER CAUSED THE SLIGHTEST TROUBLE.

BLACK-CLAWSON SEAMLESS DRYERS HAVE MADE AN AMAZING SALES RECORD... *and here are the reasons*

- We will give the facts to you short and brief. B-C dryers stay in balance longer. 77 dryers, 36" x 78", in service for 20 years, were recently checked for true. None was out more than .041".
- B-C dryers, being unbored, retain glass-like, rust-resisting interior film. Greater cleanliness, greater heat transfer results.
- B-C dryers withstand higher pressures. A 40 year old dryer was recently tested, cracked only after 550 lbs. p.s.i., even then the heads did not burst.
- B-C dryers have no large projecting flange at junction of head and shell. Such flange can't be properly heated, often causes streaks at edge of sheet.
- There you have it . . . reason why 18,000 have been sold. If you have any questions, send them in.

The Black-Clawson Company,
Hamilton, Ohio

Shartle Division, Middletown, Ohio
Dilts Division, Fulton, N. Y.

BLACK-CLAWSON
SEAMLESS DRYER

Obituary

Fred Guckenberger

Services for Fred Guckenberger, 74, 3469 Brookline Avenue, secretary of the Anchor Paper Company, Cincinnati, Ohio, were held at the Bamber funeral home on May 3.

Scottish rite ring services were held at the time of the funeral, and members of the Hanselmann Lodge met at the funeral home. Members of the Stag Club were pallbearers. Guckenberger died Wednesday at Deaconess Hospital after a short illness.

A native of Cincinnati, Guckenberger had been in the paper and cordage business here for 50 years, and had been secretary of the Anchor company for 15. Active in many local organizations, Guckenberger was a former secretary of the Cincinnati Chamber of Commerce. Last year he received a medal from the Hanselmann Lodge of Masons commemorating 50 years of membership.

He also was a member of the Scottish Rite and Shrine, United Commercial Travelers, Rotary Club, Cincinnati Hardware Club and the Stag Club.

Guckenberger leaves his widow, Mrs. Katherine Kobman Guckenberger; a daughter, Miss Thelma Guckenberger, teacher at Seguin School, and a son, Edgar F. Guckenberger, who is associated with L. W. Hoefinghoff & Co.

Lewis O. Ellis

Lewis O. Ellis, 51, of Topsham, Maine, traffic manager for the Pejepscot Paper Company, died Saturday morning at his home here on Wilson Street. Mr. Ellis' death was due to an heart ailment. He had been ill several months and was on leave of absence at the time of his death.

Born at Bury, Que., June 7, 1889, he was the son of Mrs. Mary D. Ellis and the late George Ellis. He received his education in the Bury schools and at the Belleville, Ont., Business College. Mr. Ellis came here in 1920 and had since been employed by the Pejepscot Paper Co. He was a member of United Lodge of Masons of Brunswick and the Topsham Men's Club.

Surviving are his widow, Mabel Swett Ellis, a daughter, Barbara Ann, and his mother.

Seth Wheeler, Jr.

Seth Wheeler, Jr., former president of the Albany Perforated Wrapping Paper Company, Albany, N. Y., died April 28 in Loudonville at the age of 62. Mr. Wheeler headed the concern established by his family in 1877. He was a lieutenant colonel in the Reserve Corps and a former sergeant of Troop B, now an anti-tank organization.

Mr. Wheeler was a member of the Fort Orange, University and Albany Country Clubs; the Everglades and Golf and Tennis Clubs of Palm Beach, Fla.

He leaves a widow and two sisters, Mrs. Howard Martin and Mrs. Joseph Scott House of New York.

Phineas R. Wheeler

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 12, 1941 — Phineas R. Wheeler, 71, retired sales manager of the Franklin Paper Company of this city, and for more than a half-century associated with the paper industry, died May 7 in the Holyoke Hospital.

Mr. Wheeler was born in Housatonic, Mass., March 27, 1870. He started in the paper business 52 years ago at Mittineague, Mass. He was a 32d degree Mason and a member of Melha Temple Shriners of Springfield, Mass.

Two sons, Halford E. Wheeler of Lowell and Allen B. Wheeler of Watertown, Conn., and a sister, Mrs. Ada Wheat, Kalamazoo, Mich., are living.

The funeral was held May 9 from his late residence.

L. F. Kahn

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., April 12, 1941—L. Ferdinand Kahn, 55 years old, president of the Capital Paper Company here, died Thursday in Hollywood, Fla., where he had gone because of impaired health. His body was brought here for funeral services and burial today. He was a member of the Indianapolis Hebrew Congregation and B'nai B'rith. Funeral services were held in the Indianapolis Hebrew Temple, with burial in the Indianapolis Hebrew cemetery. Survivors are the widow, two daughters and a brother.

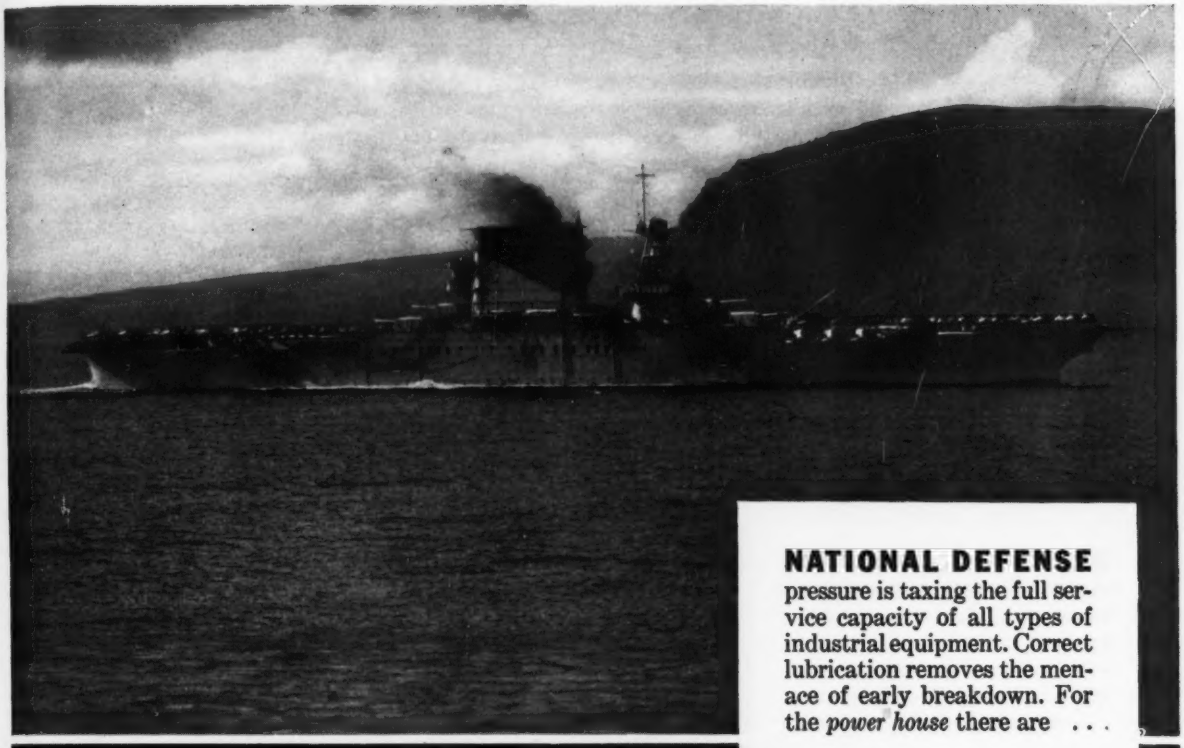
Dexter Sulphite Gets Pulpwood

[FROM OUR REGULAR CORRESPONDENT]

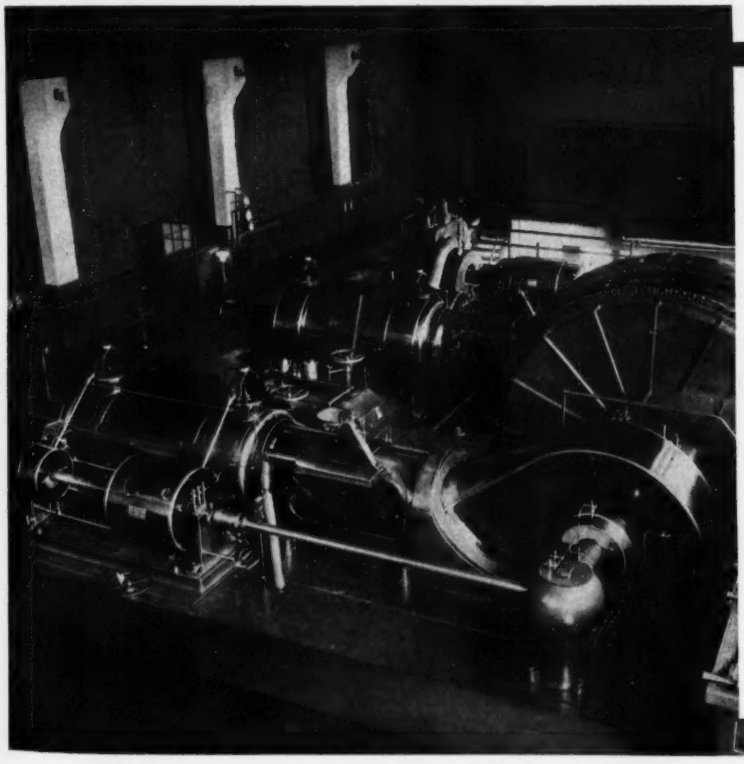
CAPE VINCENT, N. Y., May 12, 1941—A large shipment of Canadian pulpwood for the Dexter Sulphite Pulp and Paper Company arrived here this week from New Brunswick and is now being unloaded and conveyed to freight cars. The cargo was the first to be brought to this port since the start of the navigation season on the Great Lakes this year and will be followed by another of over 1,400 cords for the mills at Dexter. The timber is brought up the St. Lawrence River and is said to be considerably more expensive than the shipments of last year. It was explained that the complete elimination of Finnish, Russian and other European timber from the market has created an exceptionally heavy demand for the Canadian product. In addition to that it was stated that costs of handling and transportation all along the line have advanced within the past few months. Boats to transport the pulp wood are also scarcer because of the requisitioning of many ships to carry defense supplies to England while the handlers at the point of shipment are receiving higher wages as are also the seamen and longshoremen. All these factors make for higher quotations for the pulp wood. An official of the St. Regis Paper Company declared that shipments for that concern would not start coming through this port for at least a month.

More Power for Paper Mills

Further expansion of power facilities of the Wisconsin Michigan Power Company, Appleton, Wis., is contemplated. Officials have applied to the Federal Power Commission for a license to construct a dam and install power generating facilities on the Michigamme River in Iron and Dickinson Counties, Michigan. The development would consist of a multiple-arch concrete dam 75 feet high, a reservoir of 20,000 acre-feet, a power house with installed capacity of 21,400 h.p., and transmission lines north and south to connect with its present facilities.



NATIONAL DEFENSE pressure is taxing the full service capacity of all types of industrial equipment. Correct lubrication removes the menace of early breakdown. For the *power house* there are . . .



SINCLAIR STEAM CYLINDER and VALVE OILS suited to the particular pressure, temperature and moisture conditions individual to your engines. Economy of operation and maintenance depend upon the correct oil. Sinclair has it. Sinclair engineers will be glad to confer with you about the use of correct power house oils for your plant. Write the nearest Sinclair office or Sinclair Refining Company, 630 Fifth Avenue, New York, N. Y.

* * *

Write for "The Service Factor"—a free publication devoted to the solution of lubrication problems.

SINCLAIR INDUSTRIAL OILS

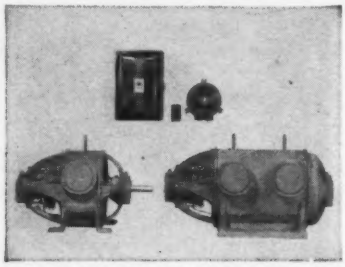
SINCLAIR REFINING COMPANY (Inc.)

2540 West Cermak Road, Chicago • 10 West 51st Street, New York City • 1907 Grand Avenue, Kansas City • 573 West Peachtree Street, Atlanta • Fair Building, Ft. Worth

New Adjustable-Speed A-C Drive

Designed especially for industrial applications requiring smoothly adjustable speeds over wide ranges with constant torque, in locations where only a-c supply is available, a new 10-to-1 adjustable-speed drive, which uses a series circuit without the usual exciter, is announced by the Westinghouse Electric and Manufacturing Company. It is available in ratings from 1 to 15 horsepower with a standard speed range of from 175 to 1750 rpm, for 2- or 3-phase operation on 220-, 440-, 550-volt, 60-cycle systems.

The new drive has five parts, including control; (1) a single-unit motor-generator set, consisting of a squirrel cage induction motor driving a series d-c generator which supplies operating voltage for (2) a



THE NEW WESTINGHOUSE ADJUSTABLE-SPEED A-C DRIVE. THESE FIVE UNITS FORM THE COMPLETE DRIVE INCLUDING CONTROL. NO EXCITER IS REQUIRED.

d-c series motor coupled to the driven load. In parallel with the generator series field is (3) a rheostat which controls the driving motor speed. Control apparatus consists of (4) an across-the-line starter for the squirrel-cage motor, and (5) a pushbutton station.

The new drive is more flexible than the wound-rotor motor and is more efficient than the conventional variable-voltage system because it has no exciter rotational losses. High-torque characteristics of the d-c series motor are combined with the flat-speed properties of the shunt motor to give good speed-torque characteristics.

Optional features include dynamic braking, and inching. Dynamic braking requires no external braking resistor, but employs a braking field wound right into the motor. Horsepower ratings are based on top speed of 1750 rpm at 40 degrees Centigrade continuous operation. Open frames are standard; splash-proof and totally-enclosed frames are available.

For further information on the series variable voltage a-c drive, write Department 7-N-20, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa.

Indianapolis Demand Expands

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., May 12, 1941—Business in various paper items in central Indiana continued to show a gradual expansion last week, with demand in most lines fairly active and all prices firm. Mills in the area appear to have a heavy backlog of orders and the present indications are that production both of fine paper and boxes and containers will continue until well into the summer even without any more orders.

The entire trade seems bent on preventing a runaway market and skyrocketing prices. Thus far there has been little labor trouble in the mills of the state. There has been some, of course, but suspended activities were of short duration and there is nothing in the immediate future which would indicate any cessation in production.

Building paper and roofing continues to expand and every sign now points to one of the best years in the history of the industry. The building industry in the entire state has not been bothered this year with trade strikes and it got off to a flying start because of the comparatively mild winter. Dealers are carrying adequate stocks, but are paying more attention to keeping them well balanced than to the size. Prices are firm.

Fine paper demand last week was good with books, covers and ledgers all moving well. Direct by mail advertising is picking up.

Box factories are benefiting considerably by the defense program and production is at a high level. The demand base is gradually expanding and the outlook is very bright for continued business through the summer and fall. Orders for summer specialties continue to increase.

Waste Firm Must Pay Back Wages

Payment of back wages and unpaid overtime totaling nearly $2,000, and owed to them under the Fair Labor Standards Act, was assured last week to 20 present and former employees of the Abrams Waste Materials Company, 1421 South McBride street, Syracuse, N. Y., when an injunction restraining the company from further violation of the Wage and Hour Law was filed in U. S. District Court in Syracuse by the Wage and Hour Division, U. S. Department of Labor.

The injunction was signed by Federal Judge Frederick H. Bryant on presentation of the complaint by Arthur E. Reyman, regional attorney of the Wage and Hour Division. The restraining order followed an investigation of the plant made under the supervision of Arthur J. White, regional director of the Wage and Hour Division.

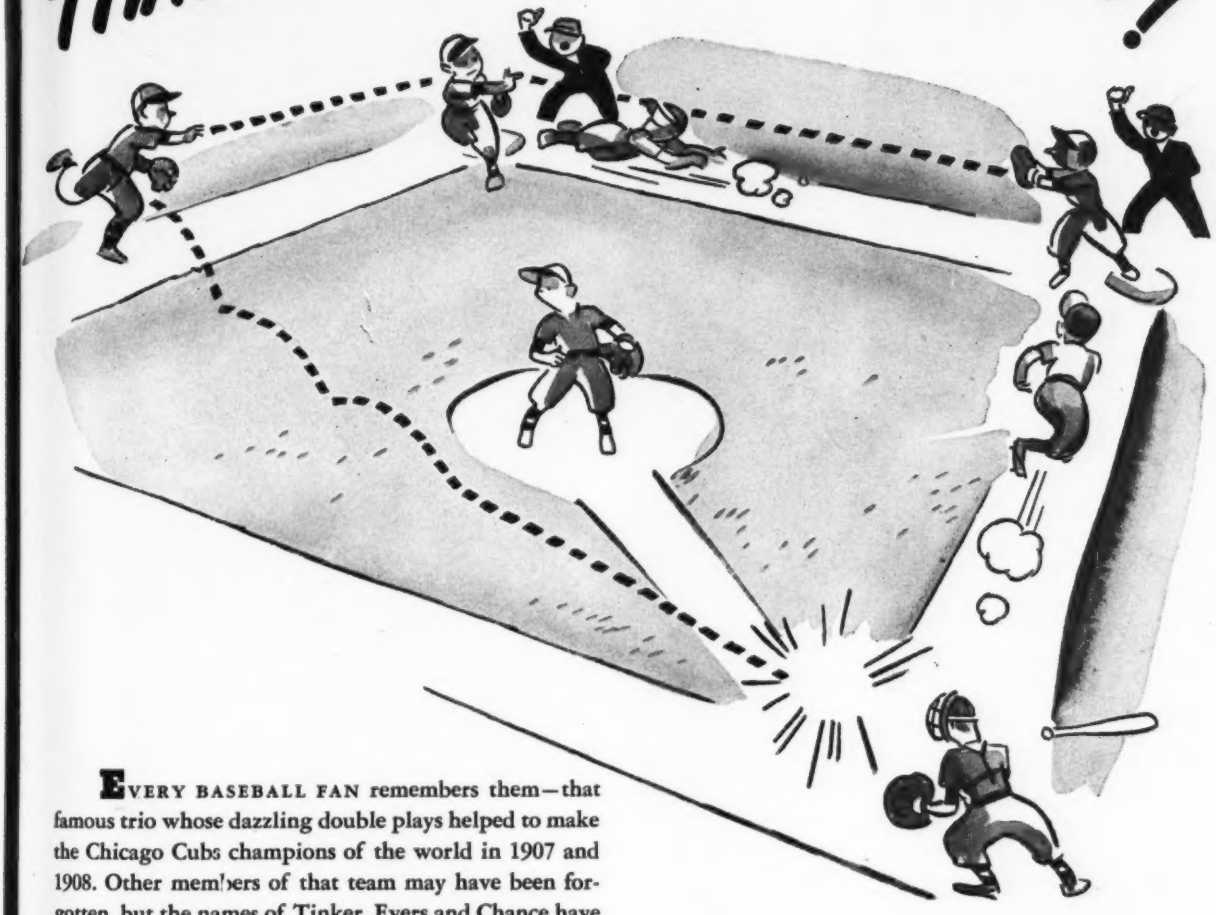
According to the complaint filed last week, the Abrams Waste Materials Company failed to pay some of its employees the minimum wage of 25 cents and 30 cents an hour prescribed by the Wage and Hour Law, failed to pay time and a half for overtime, failed to keep adequate and accurate records, as required by the law, and shipped in interstate commerce goods, in the production of which, employees were employed in violation of the Wage and Hour Law.

The company has 12 employees and is engaged in buying, selling and converting waste materials, including rags and paper. A substantial part of their product is shipped outside the state.

Investigation showed the records of the firm to be inaccurate as to hours worked, and evidence was found which indicated that time cards were frequently punched in by employees but not punched out. Some of the employees, it was established, received as little as 17½ cents an hour.

The company, which is a partnership composed of Louis Abrams, Isadore Abrams and Zilman Abrams, has agreed to make restitution, estimated at between $1,500 and $2,000, to 20 of its present and former employees, for back wages and overtime owed them under the Wage and Hour Law.

Tinker-To Evers-To Chance!



EVERY BASEBALL FAN remembers them—that famous trio whose dazzling double plays helped to make the Chicago Cubs champions of the world in 1907 and 1908. Other members of that team may have been forgotten, but the names of Tinker, Evers and Chance have come down through the years. Why? Because of their unbeatable teamwork, their all-round infield efficiency.

Making good felts is a lot like playing winning baseball—it requires *teamwork,* the close cooperation of individual experts to produce the best results. F. C. Huyck & Sons have developed a perfection of teamwork that has been solving papermakers' problems for 70 years. Huyck field engineers initiate the play with facts, workers in the Huyck research laboratory develop the formula, and Huyck craftsmen produce the felts that meet the requirements of each particular paper problem. Even then the job isn't done, for Huyck continues to check the performance of felts in actual operation—constantly works to help make better paper at lower costs.

Are *you* using all the facilities of this organization—the world's largest makers of papermakers' felts? The services of our field engineers in helping to solve your problems are available to you free on request.

KENWOOD WOOL PRODUCTS

F. C. HUYCK & SONS

ESTABLISHED 1870

KENWOOD FELTS • ALBANY, N. Y.

Exports of Wood Pulp

The Association of Pulp Consumers, Inc., 716 Mills Building, 17th and Pennsylvania Avenue, N.W., Washington, D. C., has released the following statement on the exports of wood pulp:

"Paper mills which depend on purchased wood pulp have two sources of supply, namely, that portion of the domestic production which is offered for sale, and imports. With the integrated paper mills using an increasingly large percentage of their pulp production and imports from Europe practically cut off, the mills purchasing wood pulp are keenly interested in having an opportunity to secure the full domestic pulp production which is offered for sale.

"In spite of the need for wood pulp in the United States, exports during 1940 reached the all-time-high total of 481,375 short tons, which was nearly 3½ times as great as during 1939. Exports during the first quarter of 1941 were over 20 per cent greater than during the first quarter of 1940, indicating that exports during 1941 may be even greater than in 1940. Details of imports and exports for the past two years and the first three months of 1941 are given in the following table:

WOOD PULP

(Quantities in short tons)

	Imports	Exports	Net Gain
1939			
1st quarter	417,228	17,731	399,497
2nd quarter	417,221	21,780	395,441
3rd quarter	468,382	38,849	429,533
4th quarter	723,610	61,144	662,466
1940			
1st quarter	494,913	74,161	420,752
2nd quarter	284,690	138,993	145,697
3rd quarter	235,620	158,274	77,346
4th quarter	209,347	109,947	99,400
1941			
1st quarter	227,281	90,177	137,104

"From the above table it is noted that during the first quarter of 1941 there were but 227,281 tons of wood pulp imported, nearly all from Canada, and that 90,177 tons were exported, leaving a net gain in the domestic supply of only 137,104 tons. In days like these when every possible ton of pulp is needed by the converting mills, there would seem to be no reason whatsoever for permitting the exportation of large quantities of wood pulp.

"There seems to be very little hope of receiving imports of wood pulp from European countries in the near future. Some time ago (as mentioned in the April 11, 1941 issue of Wood Pulp Notes) the British and the German Governments agreed with the Swedish Government to permit five ships per month to sail from Gothenburg to other countries, on condition that the same number of Swedish ships return to Gothenburg each month. There was the further proviso that the products to be carried on the incoming as well as the outgoing ships had to be approved by the British and German Governments. The *S. S. Stegeholm* which did get through was machine-gunned by German airplanes, although its cargo had been approved; two others were sunk by German submarines. Negotiations are still in progress to provide for some shipping, but it is doubtful if the German Government will approve the shipment of wood pulp from Sweden to the United States as long as the pulp producers in the United States are sending large quantities of wood pulp to England and her allies. In the past the German authorities have indicated that they would not authorize the shipment of wood pulp to the United States to replace wood pulp exported from the United States."

F. H. Baxter Answers Tag Charges

In commenting upon the proceedings instituted by the Federal Trade Commission, Frank H. Baxter, of the Frank H. Baxter Associates, managers of the Tag Manufacturers' Institute and its price reporting system, said:

"Notice of this proceeding comes not as a surprise attack but rather as a logical next-step in a series of conferences and discussions with representatives of the Federal Trade Commission and the Departments of Commerce and Justice which began shortly after the termination of the N.R.A. The operation of the Tag Manufacturers' Institute and its experiments in open pricing procedures have been observed by these agencies during these years at the industry's own invitation. The present proceeding, therefore, is welcomed as an opportunity to resolve certain differences of opinion respecting the underlying philosophy of open price reporting.

"One issue that is bound to achieve prominence concerns the propriety of the principle that *informed competition* is of the essence of the American way of business, and that trade facts concerning past prices and production volume collected by a trade association, audited for completeness and accuracy, and then disseminated broadly to buyer and seller on equal terms is in the public interest and does not constitute unreasonable restraint of trade. This industry holds that such information is highly beneficial in the maintenance of a genuinely free and open market and helps to put buyer and seller on an equal basis. There are those, however, who fear the rational or common-sense action which tends to follow the general dissemination of such data and they contend that competition so informed may not be in the public interest. We are confident that this issue will receive full and fair consideration in these proceedings."

Mr. Baxter said that the defense of this proceeding is placed in the hands of Albert E. Sawyer, Washington, D. C., attorney, and the law firm of Wise, Corlett & Canfield, New York. The answers of the several respondents are expected to be filed within a few days.

Walloomsac Mill Sold

A press dispatch states that "The 60-year-old paper mill of the Stevens & Thompson company at Walloomsac, idle for two months, has been bought by the Windsor Paper company and will reopen in two or three weeks to employ 150 workers.

"The purchase of the mill was announced last night at Hoosick Falls, where Harry N. Weir, treasurer of the Noble & Wood Machine company of Hoosick Falls has conducted negotiations between the paper companies.

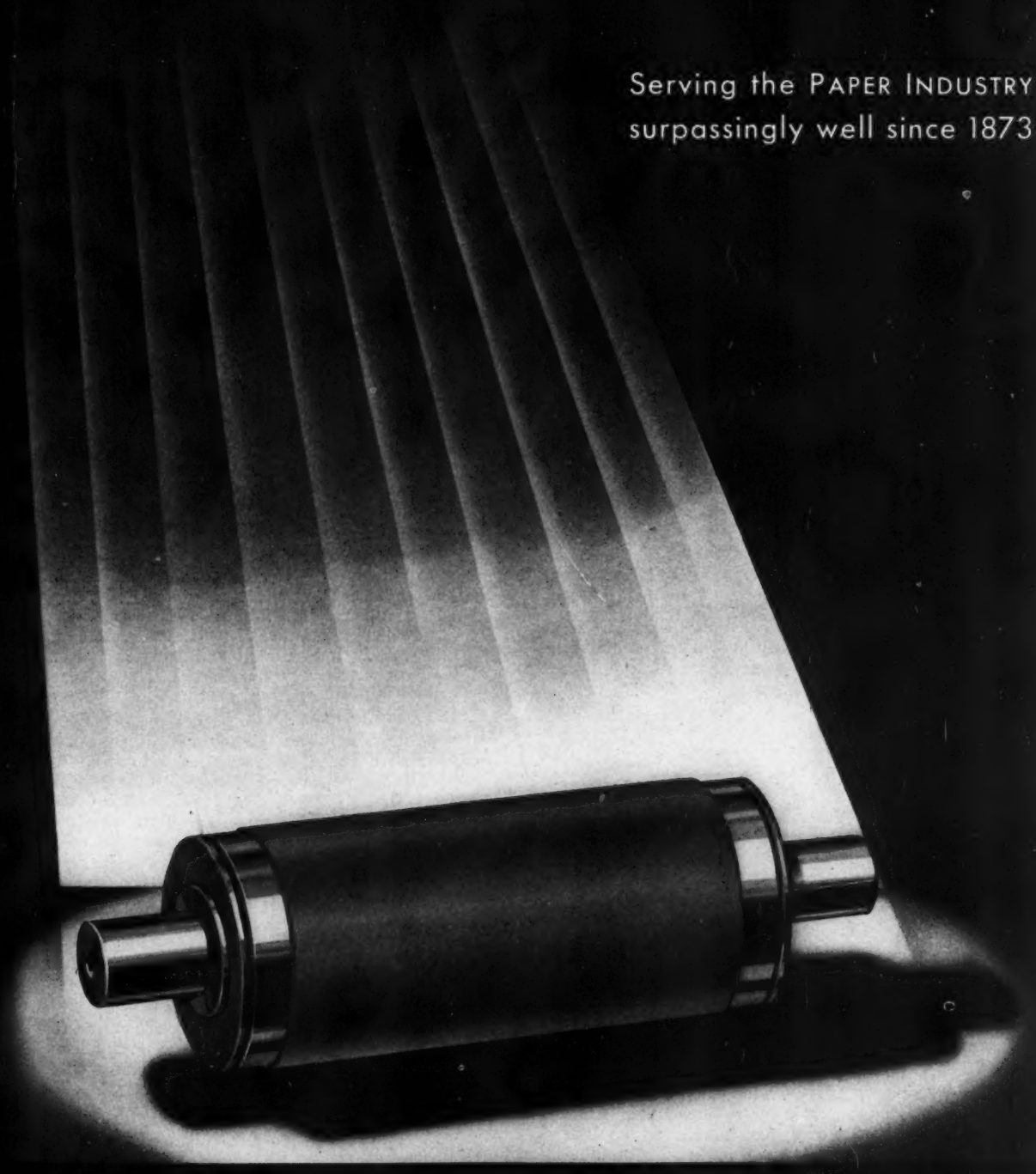
"The mill will continue to make the 'bristol board' type of paper covering which was manufactured there until the Stevens & Thompson company shut the plant down and switched this type of work to its Greenwich plant. The Windsor company operates a chain of eight paper plants."

D. L. Ward to Distribute Escort Bond

The D. L. Ward Company, Philadelphia, has been appointed a distributor in that area of Escort Bond. The latter is made from 50% new rag cuttings and is a product of the L. L. Brown Paper Company, Adams, Mass.

PERKINS

Serving the PAPER INDUSTRY
surpassingly well since 1873



B. F. PERKINS & SON, INC.

ENGINEERS AND MANUFACTURERS

HOLYOKE • • • MASSACHUSETTS

CONSTRUCTION NEWS

Sylva, N. C.—The Sylva Paperboard Company, manufacturer of paper board products for corruating, etc., has approved plans for general expansion and improvements in mill. New construction will be limited primarily to an addition to digester building, the major part of program covering the installation of machinery and equipment in existing buildings, including certain replacements. Considerable expansion will be carried out in pulp mill, where capacity will be increased over 50 per cent. Work is scheduled to proceed at once. Entire project will be carried out over a period of several months and is reported to cost close to $250,000.

Kimberly, Wis.—The Kimberly-Clark Corporation, manufacturer of writing, book and other paper stocks, has preliminary plans under way for new addition to local mill, consisting of a one-story structure, totaling about 30,000 square feet of floor space, to be used for expansion in storage and distribution department, and for shop service. Cost reported over $70,000, including equipment.

Canton, Ohio — The Canton Corrugated Box Company, 2820 Winfield way, N. E., manufacturer of corrugated boxes and containers, has awarded general contract to Dennis Steffy, Hartville, Ohio, for proposed new addition to plant, recently referred to in these columns, consisting of a one-story structure, about 120 x 165 feet, reported to cost over $75,000, with equipment. Erection will be placed under way at once. Lorenz & Lorenz, Canton, are architects.

Waterbury, Conn.—The Waterbury Corrugated Container Company, 1359 Thomaston avenue, manufacturer of corrugated boxes and containers, has approved plans for alterations and improvements in plant, including construction of a roof over a heretofore open space between buildings, to provide for increased operations. No estimate of cost announced. General contract has been awarded to the H. Wales Lines Company, 134 State street, Meriden, Conn., and work will be placed under way at once.

Owen, Wis.—The Master Package Corporation, manufacturer of fiber boxes and containers, plans early rebuilding of portion of plant recently damaged by fire. Loss reported close to $12,000.

Newark, N. J.—The Schweitzer Paper Company, 994 Newark avenue, Elizabeth, N. J., manufacturer of cigarette papers, carbon papers and other processed stocks, a subsidiary of Peter J. Schweitzer, Inc., same address, manufacturer of kindred papers, has arranged for lease of two-story industrial building at McCarter highway and Miller street, Newark, totaling about 23,600 square feet, and will occupy as new branch plant. Company will take immediate possession and will equip for early operation.

Chicago, Ill. — The Container Corporation of America, Inc., 111 West Washington street, manufacturer of corrugated boxes and containers, has taken out a building permit for proposed addition to local mill at 404 East North Water street, previously noted in these columns, and work on superstructure will proceed at once. It will be one-story, about 175 x 215 feet, reported to cost about $125,000, with equipment; a portion of structure will be used for storage and distribution. Company also will build a new brick shipping platform at 1301 West Thirty-fifth street, to cost about $12,000. E. L. Lonergan Company, 203 North Wabash avenue, Chicago, is contractor for all work. James B. Black, 520 North Michigan avenue, is engineer.

Wisconsin Rapids, Wis. — Consolidated Water Power and Paper Company has plans nearing completion for new reinforced-concrete dam across the Wisconsin River, consisting of two gravity wall structures, for service at mill. A series of ten 30-foot gates will be installed. It is proposed to carry out work by day labor. Thomas Utegaard is company engineer, in charge.

Baltimore, Md.—The Ruberoid Company, 1500 South Ponca street, manufacturer of roofing products, has awarded general contract to the Cummins Construction Corporation, 803 Cathedral street, for one-story addition to local plant, for which work will begin at once. No estimate of cost has been announced.

Richmond, Va.—E. I. duPont deNemours & Co., Rayon Division, duPont Building, Wilmington, Del., has completed plans for new multi-story addition to viscose rayon mill at Ampthill, near Richmond, for expansion in production department. Bids have been asked for structural steel framework and award is scheduled to be made soon. Cost reported over $300,000, including equipment.

Mobile, Ala.—The National Gypsum Company, 190 Delaware avenue, Buffalo, N. Y., is operating at maximum capacity at fiber insulation board mill at Mobile. Operations have been increased recently with installation of additional grinders and auxiliary equipment. Present production will be maintained for an indefinite period, with current orders running in excess of mill output.

Milwaukee, Wis.—The Milwaukee Lace Paper Company, Inc., 1306 East Meinecke avenue, manufacturer of paper specialties, will make improvements in boiler house, including installation of new equipment, in conjunction with other plant alterations and betterments, recently referred to in these columns. A contract for a new high-pressure boiler unit and stoker has been awarded to the Milwaukee Boiler Manufacturing Company, 1101 South Forty-first street, Milwaukee. Award for general work has been made previously to the Universal Construction Company, Inc., 605 South Twelfth street, Milwaukee. Charles F. Smith, 717 North Sixty-fifth street, Wauwatosa, Wis., is architect.

Neenah, Wis.—The Bergstrom Paper Company, manufacturer of book, catalog and kindred paper stocks, has approved plans for new one-story addition to mill on West Wisconsin avenue, to be used for storage and distribution. It is estimated to cost about $15,000, with equipment. Work is scheduled to begin at once.

York, Pa.—The Southern Kraft Corporation, 220 East 42nd street, New York, N. Y., is arranging for early resumption of operations at branch mill at York, formerly the property of the Penn Fibreboard Corporation, and which has been idle for some

months past. The mill is used for the production of jute liner and various paper board specialties. It is expected to give employment to full working quota at early date.

Cleveland, Ohio—The Hinde & Dauch Paper Company, Inc., Sandusky, Ohio, manufacturer of corrugated boxes and containers, has begun work on new addition to branch plant at 2110 West 110th street, Cleveland, recently referred to in these columns, and will push construction to early completion. It will be one-story, 150 x 300 feet, and will be used for general production service, storage and distribution. Cost is reported about $130,000, with equipment, instead of smaller amount, previously noted. Albert M. Higley Company, 2036 East Twenty-second street, Cleveland, has the general erection contract.

Buffalo, N. Y.—Fire recently damaged a portion of storage and distributing building at Miami and Moore streets of the Great Lake Paper Stock Company, 212 Ohio street, with loss reported at about $13,000. It is planned to rebuild at early date.

New Companies

New York, N. Y.—The Revere Paper Company, Inc., has been incorporated with capital of 100 shares of stock, no par value, to deal in general paper goods for commercial service. New company is represented by Arthur H. Williams, 278 Fulton avenue, Hempstead, L. I., attorney.

Boston, Mass.—The Jewett Paper Cutting Company, Inc., 29 Purchase street, has been chartered with capital of $15,000, to deal in paper products of various kinds. Harry W. Jewett is president; A. S. Jewett is treasurer.

Orchard Paper Co. To Build

ST. LOUIS, Mo.—A $40,000 warehouse addition to the plant of the Orchard Paper Company has been started in the rear of 3914 Union. Designed to conform architecturally with the present building of the company, it will be of adobe-type brick and will have large areas of glass.

One-story high and measuring 200 by 80 feet, it will add 16,000 square feet of floor space to that now occupied by the firm in a building 200 by 600 feet. Although planned primarily for warehouse purposes, the structure is so designed that it may be converted for other uses. A feature will be its floor-level trackage facilities.

The Orchard Paper Company manufactures decorative papers, box covers, bags and paper specialties. It was established in 1920 at 713 Spruce. In 1924, it moved to 1113 South Twelfth and in 1933 purchased the present building at 3914 Union.

Officers of the firm are Herman C. Orchard, president; Charles P. Orchard, vice-president; and Louis Weenick, secretary-treasurer.

Brown & Ideson, Inc., are the builders and architects.

Kimberly-Clark To Erect Addition

The Kimberly-Clark Corporation will soon erect an addition to its finishing and storage facilities at its mill at Kimberly, Wis. The building will be of frame construction with approximately 30,000 square feet of floor space, and will be used for paper storage and a frame shop. It is expected that the structure will be completed late in the summer.

Splashproof Tri-Clad Motors

A line of Tri-Clad splashproof, ball-bearing, polyphase induction motors in sizes from 1 to 15 horsepower has been announced by the General Electric Company to supplement its recently announced Tri-Clad polyphase and single-phase open general-purpose lines. The new line is especially designed to meet the needs of applications where splashing water and other liquids are present, such as in dairies, breweries, paper mills, food industries, packing plants, laboratories, and similar applications.

As in the open Tri-Clad motors, the splashproof line features functionalized styling, modern, streamlined appearance, and triple protection — protection against physical damage, against electrical breakdown, and against operating wear and tear. Outstanding features include sturdy cast-iron stator frame and end shields that resist rust and corrosion, Formex wire windings highly resistant to moisture, and thoroughly protected ball bearings.

The ventilated openings of this motor's stator frame and end shields are carefully baffled to block the entrance of splashing liquids. An ingenious arrangement of cast baffles within the side openings of the stator frame effectively blocks splashing from the side.

Since winding materials and treatment are of particular importance in splashproof motors, the windings of the new line are of Formex, G-E's heat- and solvent-resistant magnet wire, carefully wound and impregnated with a special synthetic resin varnish. As a further protection the winding has a covering coat of tough Glyptal No. 1201 Red.

Cast-iron housings machined to close tolerances enclose the ball bearings for complete protection. The outer portion of each housing is part of the end shield itself, thus eliminating external joints and fits.

Ample space for making connections easily and quickly is afforded by the new motor's liquid-tight cast-iron conduit box which is built into the frame of the motor.

Baroda To Have New Paper Mill

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 14, 1941—A new Indian paper mill is to be constructed in the State of Baroda. It is stated that the raw material for the manufacture will be obtained from the bamboo forests of the Navsari District in Baroda. It is understood that the new enterprise will employ about 1,000 people.

The new enterprise will receive aid from the Government of Baroda in the form of various subsidies; permission to import duty free the necessary machinery, raw materials, and chemicals for the operation of the mill; and the preference for its products in the purchase of paper supplies for the State.

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending May 14, 1941

	High	Low	Last
A. P. W.	1⅛	1	1
Armstrong Cork Co.	26	25½	25½
Celotex Corp.	9⅛	8⅞	8⅞
Celotex Corp., pf.	68½	68	68½
Certain-Teed Products Corp.	3⅛	3⅛	3⅛
Certain-Teed Products Corp., pf.	26	25	25
Champion Paper & Fibre Co.	18¼	18⅛	18¼
Champion Paper & Fibre Co., pf.	....	....	....
Congoleum-Nairn Co.	14⅞	14¼	14⅜
Container Corp. of America	13	12¾	13
Continental-Diamond Fibre Co.	7¾	7½	7½
Crown-Zellerbach Co.	12¾	12⅝	12⅝
Crown-Zellerbach Co., pf.	85½	84	84
Flintkote Co.	12¾	12⅜	12½
Robert Gair	1½	1¼	1⅜
Robert Gair, pf.	8¼	7⅞	7⅞
International Paper & Power Co.	14¼	13½	13¾
International Paper & Power, pf.	66¾	64⅛	64⅜
Johns-Manville Corp.	59	58½	58¾
Johns-Manville Corp., pf.	126	126	126
Kimberly-Clark Corp.	27½	27½	27½
MacAndrews & Forbes	25⅜	25⅜	25⅜
MacAndrews & Forbes, pf.	....	....	....
Masonite Corp.	21	20¾	20¾
Mead Corp.	7⅝	7⅜	7⅜
Mead Corp., pf.	66⅜	65	65
Paraffine Companies, Inc.	....	....	....
Paraffine Companies, Inc., pf.	102⅜	102⅜	102⅜
Rayonier, Inc.	12½	11½	12
Rayonier, Inc., pf.	25⅛	24¼	25⅛
Ruberoid Co.	15¾	15½	15¾
Scott Paper Co.	36	35¾	36
Scott Paper Co., pf.	113½	113	113½
Sutherland Paper Co.	19¼	19	19
Union Bag & Paper Corp.	11	10⅜	10¾
United Paperboard Co.	....	....	....
U. S. Gypsum Co.	56½	55	55
U. S. Gypsum Co., pf.	173	173	173

New York Curb Exchange

High, Low and Last for Week Ending May 14, 1941

	High	Low	Last
American Box Board Co.	....	....	....
Brown Co., pf.	....	....	....
Great Northern Paper Co.	....	....	....
Hummel-Ross Fibre Corp.	5½	5½	5½
National Container Corp.	11½	11⅜	11⅜
St. Regis Paper Co.	2	1¾	1⅞
St. Regis Paper Co., pf.	89	87	87½
Taggart Corp.	2½	2⅜	2½

Continental-Diamond Earns Less

The Continental-Diamond Fibre Company for the March quarter reports a net profit of $153,103 after $68,000 reserve for contingencies and $171,000 provision for income taxes, compared with net profit last year of $168,378 after $36,600 provision. Canadian company is operating at a profit, the report states. It adds: "Since making our annual report to stockholders we have audited statements from our English company indicating a net income for the year 1940 equal to $20,322 when converted to American funds at rate of $4.02 per pound sterling." French subsidiary showed net income of $13,744 when converted into American dollars for the nine months ended on September 30, 1940.

Flintkote Files with SEC

The Securities and Exchange Commission reported on May 9 that the Flintkote Company of New York City had filed a registration statement for 40,000 shares of $4.50 cumulative preferred stock and 50,000 shares of no-par common.

The preferred will be sold through underwriters, including Lehman Brothers and others to be named by amendment, and the common will be sold direct to officers, executives and employes at prices to be fixed by the directors.

Union Bag Earns $560,599

The Union Bag and Paper Corporation reports for the quarter ended March 31, 1941, net profit, after Federal income and excess profits tax provisions, of $560,599, equivalent to 44 cents per share on 1,272,437 shares of common stock outstanding. This compares with $516,931 for the corresponding quarter last year, equal to 41 cents per share on 1,262,729 shares then outstanding. For both periods charges were made for Federal income and excess profits taxes at the rates provided in the Second Revenue Act of 1940.

For the 12 months ended March 31, 1941, net profit, after charging Federal income and excess profits taxes as provided in the Second Revenue Act of 1940, amounted to $2,170,059, or $1.71 per share. Net profit for the 12 months ended March 31, 1940 amounted to $1,328,973, or $1.05 per share, after charging Federal income and excess profits taxes at the rates applicable to the 1939 and 1940 portions of this period.

Alexander Calder, president of the corporation, in a letter to stockholders, states that net sales for the first quarter of this year totaled $6,003,805 compared with net sales of $4,832,766 for the corresponding quarter last year. Sales for the 12 month period ended March 31, 1941 were $23,252,072 compared with $18,589,681 for the 12 months ended March 31, 1940.

Hammermill Earnings Up

The Hammermill Paper Company for 1940 reports a net income of $503,972, against $463,405 the year before.

Masonite Declares Dividend

The Masonite Corporation of Wausau, Wis. and Chicago, last week declared an extra dividend of 25 cents in addition to the regular quarterly dividend of 25 cents per share on the common stock. Both are payable June 10 to stockholders of record May 20.

Directors also declared the regular quarterly dividend of $1.25 per share on the preferred stock, payable June 1 to stockholders of record May 20.

Great Northern Nets 68 Cents

The Great Northern Paper Company and its wholly owned subsidiaries reports for the March quarter a net profit of $676,022, equal to 68 cents each on 997,480 shares of common stock, compared with $688.249, or 69 cents a share, in the March quarter of 1940.

Certain-teed Nets $143,264

The Certain-teed Products Corporation and wholly-owned subsidiaries in a report for the quarter ended March 31, 1941, show a net profit of $143,264 after depreciation, depletion, interest, federal income taxes,

etc., equal after quarterly dividend requirements on 73,069 shares (par $100) of 6% preferred stock, to five cents a share on 625,340 shares of common stock. Report states no United States excess profits tax payable. Preferred dividend accumulations amounted to $24.00 per share on March 31, last.

This compares with $149,062 or six cents a common share in March quarter of previous year.

Champion Votes Dividend

Directors of the Champion Paper and Fibre Company, Hamilton, Ohio, have announced a dividend of 25 cents a share on common stock, payable June 30 to holders of record June 14. A similar distribution was made on the issue March 15.

The board also declared a regular quarterly dividend of $1.50 on the preferred shares for payment July 1 of record June 14.

Extends Certification Program

Recently the National Paper Trade Association extended its certification and inspection program to include standard kraft wrapping paper and kraft grocers bags. The program already covers butchers wrapping paper. An announcement to this effect has been sent to all manufacturers and converters, and members of the N.P.T.A., with an invitation to any interested parties to submit their papers for certification.

The certification program of the association briefly embodies comprehensive laboratory testing from which testing minimum specifications are written by the certification board with the intent of arriving at sound commercial standards. Any manufacturer or converter may participate in this program by submitting samples of papers for testing and if they are found to comply with the specifications certification will be granted. Under this program the association has drawn up a contract between the manufacturer and the association which stipulates that those brand names which are placed under certification are to be sold only to members of the association, and the association agrees to furnish the manufacturer with the necessary certification seals and to announce to its membership the availability of that manufacturer's products under certification. The program in no way prohibits the sale of any product but merely confines the sale of a particular brand name, generally a newly created brand name, to its own membership.

Association members selling these three products under their own private label may apply for certification by submitting samples of their private labels and information as to their source of supply. A contractual arrangement exists between the association and its members with regard to the sale of any private brand name under certification.

The Certification Program has interesting merchandising possibilities in that it enables both manufacturers and distributors to enhance the selling appeal of their product. Addition of the certification seal to the label places much added sales ammunition in the hands of a paper salesman by assuring the consumer that this product has been carefully tested and inspected, and certified as to its quality.

GIVE Slimform* THE GATE

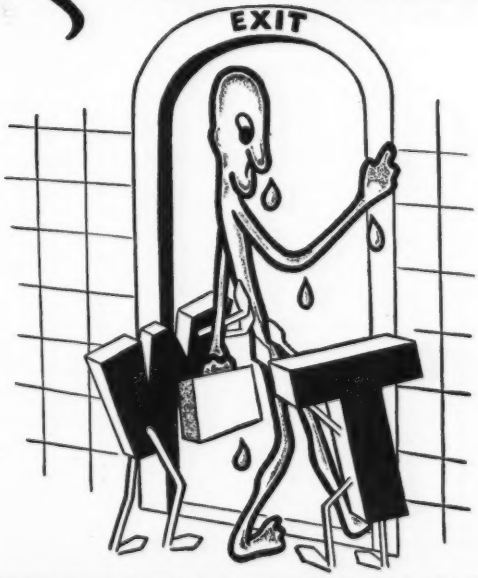
With the Help of W&T

Getting rid of slime-forming micro-organisms . . . once and for all . . . can't be done by half-way measures. It calls for the aid of experienced specialists on problems of water-borne contamination... men who know what's practical in modern paper-plant operations.

Why go on putting up with frequent breaks and wash-up interruptions . . . with obstructed lines, plugged felts and blinded wires? Why risk spots, stains and pin holes from slime aggregates that break away to end up on the finished product?

When you call in W&T, you get the experience developed in more than 300 paper-mill installations for slime elimination and micro-biological control. And the cost of using chlorine or chloramine to keep the plant permanently free from slime averages no more than 1½ to 6 cents per ton of product. Better write W&T today.

P 24



*Slime-forming organisms that thrive in process water.

WRITE FOR 42-PAGE BOOKLET

"Micro-biological Control in Pulp and Paper Manufacture" discusses latest practice now employed at prominent mills. Write for a copy.

WALLACE & TIERNAN CO., Inc.

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A brilliantly WHITE, pure, fine titanium dioxide possessing excellent . . .

- **OPACITY**
- **BRIGHTNESS**
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Suitable for ALL types of paper ranging from thin printing papers and waxing tissues to coated book and magazine stocks.

UNITANE O—110 was especially developed for paper pigmentation. Its excellent dispersion in water promotes good retention and excellent sheet formation. As a component of the beater furnish, it produces *whiter* sheets of *great brilliance*, and superior printing qualities.

SAMPLES of UNITANE O-110 will be sent promptly upon request.

UNITED COLOR & PIGMENTS

UNITED COLOR AND PIGMENT CO.

DIVISION OF INTERCHEMICAL CORPORATION

NEWARK, NEW JERSEY

SALES OFFICES IN PRINCIPAL CITIES

New Low Cost Stitching Equipment

A complete line of straight arm, bottom and combination carton stitching machines has been placed on the market by Acme Steel Company, Chicago, manufacturers of Silverstitch and Colorstitch stapling wire as well as steel strapping and other package reinforcing items. This new equipment incorporates several unique features including a special single pedal control which is adjustable and reduces by

NEW STITCHING MACHINE

50% the manual effort required for stitching. The moving parts are few and these are reversible to cut down maintenance costs.

The straight arm type of Silverstitcher is designed for stitching sides and ends of telescope and folding cartons, beverage cases, display units, set-up and suit boxes, and can be easily adapted for special applications. The bottom type is made for stitching bottoms of fibre and corrugated containers, slotted cartons and collapsible boxes.

The combination Silverstitcher combines both the straight arm and bottom types in one piece of equipment.

Silverstitchers are available at low cost on a unique purchase plan. A well illustrated folder shows the new Acme machines in operation in a number of plants and under varied conditions. Literature on these stitchers can be obtained direct from Acme Steel Company, 2840 Archer avenue, Chicago.

H. M. Sutton Goes With Bagley & Sewall

Hugh M. Sutton has again become connected with The Bagley and Sewall Company, Watertown, N. Y., as sales engineer. Mr. Sutton was formerly connected with the Bagley & Sewall Company from August, 1930, until December, 1938, at which time he resigned to become connected with the Hudson Sharp Machine Company.

Mr. Sutton will devote all of his time traveling throughout the New England territory, the states of New Jersey, Pennsylvania, and the southern part of New York State. He is living with family in Lee, Mass., as it is believed that he can lend a greater assistance to mills in his territory by living in a centrally located place.

Mr. Sutton worked a great many years in paper mills in an engineering capacity before becoming connected with the Bagley & Sewall Company.

New Literature

Belt application on paper-making machines is presented in a bulletin issued by Alexander Brothers, 406 North 3rd street, Philadelphia, Pa. It describes the special construction features of the manufacturer's Special 3-Ply Cone Belt. List prices are included.

Conveyors for bulk materials are the subject of Bulletin 31, issued by the Ajax Flexible Coupling Company, Westfield, N. Y. It describes in detail the company's "Lo-veyor" of the self-contained vibrating type, for bulk conveying materials for overhead, floor and sub-floor installations, in a wide range of industries.

Self-contained lubrication units are described in a bulletin issued by S. F. Bowser & Co., Fort Wayne, Ind. It covers new equipment completely assembled as units for use in power and industrial plants. The units store the oil, pump it, filter it and circulate it to the machines to be lubricated.

Automatic magnetite filter operation in the treatment of industrial wastes and for the purification of raw water for industrial uses, is covered in a new bulletin issued by the Filtration Equipment Corporation. This equipment is marketed by The Dorr Co., 570 Lexington avenue, New York. The publication illustrates an installation at the mill of the Escanaba Paper Company. Applications, advantages and operating data are included.

Portable electric hoists are described in Bulletin No. 348, issued by the Shaw-Box Crane and Hoist Division, Manning, Maxwell & Moore, Inc., Muskegon, Mich. The "Budgit" hoists are modern, portable equipment, that operate from lamp or power sockets usually available in plants for small tools. Sizes are available up to 2000 pounds. List prices are given.

Bridge crane assemblies are described in Bulletin No. 349, issued by the Shaw-Box Crane and Hoist Division, Manning, Maxwell & Moore, Inc., Muskegon, Mich. It covers the company's "Budgit", top-running, and underhung bridge assembles. These assemblies include directions and all parts except a length of I-beam and shaft, to build the crane.

N. E. Paper Men to Hold Outing

[FROM OUR REGULAR CORRESPONDENT]

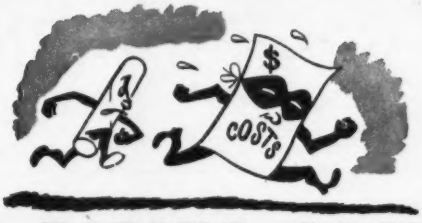
BOSTON, Mass., May 12, 1941—The program of the spring outing of the New England Paper Merchants Association, Inc., to be held May 19 at the historic Oakley Country Club, Watertown, Mass., will include luncheon, golf and dinner, to be followed by entertainment, colored moving pictures and talk, "Development of Small Boat Racing on the Charles River Basin" and other sport topics by Professor George Owen and W. C. (Jack) Wood, of Massachusetts Institute of Technology.

The golf starting time is 1:00 to 2:30 P. M. Prizes for low gross, kickers handicap, and blind bogey are offered to members; for kickers handicap, whisker (nearest to pin on 15th hole. Ball must be on the green), and longest drive on fairway from tee—16th hole, to guests and members, and for a putting contest to non-golfing members and guests. One prize only is offered to a person.

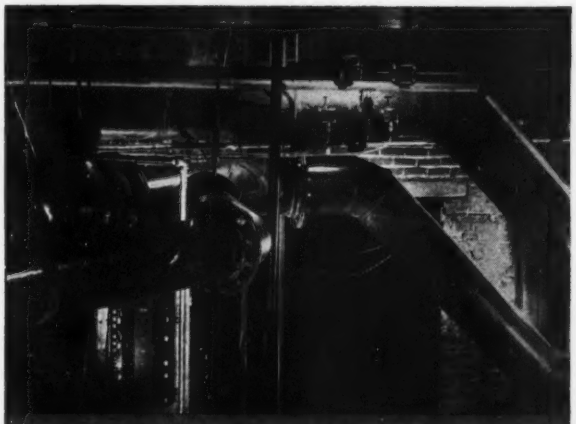
The golf committee is composed of William J. McLellan, chairman, John F. Blackman and William N. Stetson, Jr.

All Boston members of the association are members of the reception committee.

crack down



ON PIPING COSTS!



ARMCO'S custom-built method of prefabricating pipe simplified the job and saved at least seven sets of flanges on this section of line. Only a few supports were needed.

• Pipe dollars go farther and long service is assured when you use ARMCO "Spiral Welded" for new lines or replacements.

Savings often run as high as 25 to 30% because every foot of ARMCO Spiral Welded Pipe is tailor-made to fit the job. Standard or special fittings come welded to straight pipe runs and you eliminate at least one pair of flanges at every bend. Even the most complicated assemblies go in quickly.

Maintenance is sure to be low when you use ARMCO Spiral Welded Pipe. Fewer flanges naturally mean fewer joints, less chance for leaks. Then too ARMCO Pipe has no threads to weaken the metal and invite corrosion.

ARMCO Spiral Welded Pipe is available in diameters from 6 to 36 inches with wall thicknesses from 7/64 to ½-inch. Mail us your rough plans for a convincing demonstration of its many advantages. We'll submit an accurate cost estimate and a sketch of our proposed design. The American Rolling Mill Company, Pipe Sales Div., 1201 Curtis St., Middletown, O.

ARMCO

SPIRAL WELDED PIPE

PAPER
TRADE JOURNAL
Title Reg. U. S. Pat. Off.
Henry J. Berger
EDITOR

Vol. 112 May 15, 1941 No. 20

COMING EVENTS IN PAPER INDUSTRY

New England Section. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

Delaware Valley Section. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

Lake States Section. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

Kalamazoo Valley Section. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

American Pulp and Paper Mill Superintendents Association, Twenty-second Annual Convention, Poland Spring House, Poland Spring, Me., June 17-19.

Technical Association of the Pulp and Paper Industry, Fall Meeting, Ann Arbor, Mich., September 16-19.

TREND OF EVENTS

National defense was the dominant theme and many important economic and business problems were discussed at the 29th annual meeting of the Chamber of Commerce of the United States, held at Washington, D. C., April 29 to May 1. The necessity of increasing production to meet defense as well as normal needs, curtailment of non-essential government and business activities, the adoption of sound fiscal policies, and the preservation of our democratic and economic institutions, were among the vital topics considered.

In his opening address, President Kemper, of the Chamber, said in part: "Fundamentally, American objectives are what they always have been. We believe in equality of opportunity; we believe in justice, administered impartially; and we wish to preserve in this country our standards of living and the philosophies of life and government that have made America great. . . . At the present time we have gainfully employed in America forty million workers accomplishing 90 billion hours of productive effort. It is estimated that the defense program will require 20 billion work hours, that is 25% of our productive effort. We can't have our cake and eat it too; either every employed person in the country must do, on the average, 25% more work, or we must get along without some of the things we now have. . . . I think it is a fair conclusion that by our handling of our internal affairs during this rearmament period, we probably shall be determining the structure of government and life under which we shall live for many years to come. That is why we should, in addition to our tremendous arming effort, give daily thought and real study to our domestic problems. The very uncertainty of the future makes it obligatory on us to leave no stone unturned to do now, whatever it is possible to do, to cushion the impact on the business of this nation which will follow the withdrawal of the artificial stimulants to trade which now give the patient such a persuasive but deceptive appearance of prosperity."

A serious note was sounded by Secretary of Commerce, Jesse Jones, who said in part: "No small part of government's business is that of making and enforcing rules for the proper conduct of private business from farming to the manufacturing and distribution of the things the farmer buys. Some in business think the rules are not always fair, or to the best interests of business; some think the methods employed in enforcing the rules are sometimes too harsh. But the game is a big one and the players many. Decisions are sometimes close, and we may feel like murdering the umpire. . . . A few months ago we were worrying about whether we could afford to increase government borrowing authority above $45,000,000,000. It seems probable now that it will grow to at least double that amount, even allowing for paying as much of this extraordinary cost from current taxes as our economy can stand. Frankly, it has never occurred to me that we could not carry a national debt equal to a year's national income, and as we build the national income we can carry more debt. But whatever amount we have to borrow, we must commence to pay back the day the emergency is over."

In reviewing the fiscal side of defense, Ellsworth C. Alvord, Washington, D. C., said that, "Federal policies in the last decade have been based on a set of ingenious (and ingenuous) theories to the effect that (1) Private savings are excessive; (2) Federal deficits are 'investments', necessary to make up for lack of private investments; (3) Federal spending creates 'consumer purchasing power' which in turn produces 'healthy' inflation; (4) Production must be restricted by artificial means because of a 'natured economy', 'oversaving' and similar reasons. Our present economic and financial situation demonstrates the utter absurdity of these policies. The time for theories and experiments is past. We are now confronted with the facts: (1) Private savings are required in unlimited quantities to create new facilities for both defense and civilian goods, and to absorb the tremendous Federal borrowings required for the defense program; (2) Federal deficits of the last ten years have become a millstone around the neck of the Treasury Department in financing the defense program; (3) Consumer purchasing power for civilian needs must be curtailed, at least temporarily, although the Administration has not yet abandoned any of the subsidies or activities which were created to stimulate purchasing power; (4) The Production which has been carefully restricted is now admitted to be woefully inadequate for either full

defense or civilian needs. Instead of 'guns and butter', we are facing the prospect of guns and short rations."

Continuing further comment on the growing national deficit, Mr. Alvord said in part that, "(1) Aggregate expenditures of the Federal Government from 1931 through 1942 will be $104 billions. (2) The total deficit for this period will be $45 billions, or almost $4 billions annually. (3) The public debt has increased from $16.8 billions in 1931 to $49 billions on June 30, 1941, and will reach $58 billions by June 30, 1942. (4) Interest charges on the public debt will be $1¼ billions in the fiscal year 1942. Unless effective steps are taken to improve the ratio between revenues and expenditures, the present Federal debt may double before the emergency passes. It is obvious that serious questions are presented, among which I might list the following: (1) Can such a tremendous expansion of Federal borrowing be accomplished without producing inflation? (2) Can adequate monetary, price, and tax controls be devised and made effective? (3) Will the expansion and conversion of private facilities for defense purposes be financed and controlled by private capital or government? (4) Can we avert collapse and permanent injury to the economy in the inevitable post-war deflation? (5) Can the burden of sustaining such an enormous public debt be supported by private industry during the post-war aftermath?"

To pay for defense without inviting inflation was discussed by Marriner S. Eccles, chairman of the board of governors of the Federal Reserve System, who said in part: "The most direct way to attack the inflation problem is through heavy corporate income and excess profits taxation. . . . High taxation of personal incomes and excise taxation will be necessary in any event. . . . If excess profits are not tapped, they will lead to demands for higher wages. To the extent that wages are increased and prices are controlled, corporation profits are less than they would be otherwise, and Federal revenue from this source is accordingly diminished. Under these circumstances, it is only fair that this loss of revenue be made up by taxing directly the beneficiaries of the increased wages. . . . We should consider the advisability of providing a method of controlling the volume of forward buying on installment credit. Further expansion of installment credit at this time would be an inflationary factor. . . . I do not believe that agricultural benefits should be curtailed, particularly in those fields where agriculture expenditures does not profit as other groups do from defense expenditures."

Osborn Paper Selects Agent

[FROM OUR REGULAR CORRESPONDENT]

MARION, Ind., May 5, 1941—The International Brotherhood of Pulp, Sulphite and Paper Mill Workers, AFL, has been selected to be the bargaining agent for employees of the Osborn Paper Company here.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks, 1941		Corresponding Weeks, 1940	
March 29	94.9	March 30	82.3
April 5	92.9	April 6	79.4
April 12	94.9	April 13	81.8
April 19	94.5	April 20	86.5
April 26	98.3	April 27	89.4
May 3	*100.1*	May 4	89.3

(Preliminary. 7-day operations prevalent.)

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1940	89.1	84.7	82.3	84.3	90.0	92.1	85.3
1941	85.1	89.4	92.3	*96.4*	...	...	...

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1940	85.1	81.5	85.5	84.9	80.9	85.6
1941	...	...	...	...	...	...

COMPARATIVE YEARLY SUMMARIES

	1935	1936	1937	1938	1939	1940	1941
Year to Date...	68.2	77.6	89.6	67.5	80.2	85.5	*90.7*
Year Average..	70.0	80.4	79.8	71.5	83.4	85.6	...

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS †

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1936	62	67	67	70	69	70	69	75	78	82	80	74	72
1937	80	86	86	88	85	77	66	74	69	65	55	45	73
1938	54	60	61	57	58	56	57	66	66	70	65	59	61
1939	60	67	71	69	64	67	63	72	74	84	81	71	70
1940	71	70	69	70	76	79	72	74	72	79	77	71	73
1941	75	81	82	*83*	..	..	..	..	..	..	..	..	..

Week ending Mar. 29, 1941—84
Week ending Apr. 5, 1941—83
Week ending Apr. 12, 1941—85
Week ending Apr. 19, 1941—78
Week ending Apr. 26, 1941—84
Week ending May 3, 1941—*83*

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Assn.

Complete Reforestation Program

British Columbia's reforestation program for the year was completed recently. It involved the planting of 8,700 acres of cut-over lands under the direction of the Provincial Forestry Service in cooperation with logging companies, Hon. A. W. Gray announces. Small crews of men are still engaged in preparing ground for planting next year.

Some 6,660,000 trees were planted by the Provincial Forestry Service, operating through reforestation camps mainly on Vancouver Island. In addition 460,000 young trees were set out by logging companies.

Tree nurseries at Green Timbers and Campbell River will continue their work, and 600 pounds of seed will be sown to produce young planting stock by the spring of 1943, Mr. Gray said.

The cost of this year's program was not yet ascertained.

American Coating Mills Resume

ELKHART, Ind., May 12, 1941—American Coating Mills, which shut down May 3 when 400 members of the United Paper Workers went on strike following discharge of a fellow employe, has resumed partial operations. Charles H. Wilson of Indianapolis, state labor conciliator, announced that union members have ratified unanimously an agreement between company officials and the union bargaining committee. Terms of the agreement were not divulged. The carton division of the plant resumed operations Thursday and the remainder of the plant went to work today.

THE EFFECTS OF MODERN CHEMICALS
AND SPECIALTIES UPON THE

Smoothness OF PAPER

Development of smoother surface qualities to fill needs of the printing industry. Aside from æsthetic considerations, the smoothness that modern papers have attained is particularly important to the printing processes. Consideration of paper as a printing surface has become increasingly an evaluation of surface characteristics *at printing pressure*. Wax sized papers, because they tend to flatten out more under pressure, ideally meet the requirements of modern multicolor, high-speed printing . . . providing a surface that will take clear, sharp and deep-toned impressions with a minimum of printing ink.

Smoothness relative to manufacturing methods and routine. How much wax is required to make a noticeable improvement in the finish of a paper depends quite considerably on the degree of calendering. Very lightly calendered papers are not actually made smoother by the wax, although it does impart a softer feel. Ordinary machine finish papers can be made noticeably smoother by addition of fractional percentages. Supercalendered book and glassine respond to relatively less. Cyanamid paper technicians will be glad to help you determine the proper quantities of wax to be used to achieve surface smoothness in relation to other required characteristics of your paper.

Developing the means and methods to improve the manufacture and broaden the usefulness of paper and paper products is the service that the American Cyanamid laboratories extend to the paper industry. Cyanamid paper technicians are available for consultation on any problem that may arise involving the use of paper chemicals. Simply address details of the problem to . . .

American Cyanamid & Chemical Corporation

A Unit of American Cyanamid Company

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DISTRICT OFFICES: 89 Broad Street, Boston, Mass.; 600 South Delaware Avenue, Philadelphia, Pa.; Russell & Bayard Streets, Baltimore, Maryland; Wilkinson Boulevard, Charlotte, N. C.; 860 Leader Building, Cleveland, Ohio; 20 North Wacker Drive, Chicago, Ill.; Miller Road, Kalamazoo, Michigan

Evaluating paper by the sense of touch still plays an important part in the buying of paper stocks. The smooth, "silky feel" that wax sizing can give to many papers greatly enhances their appeal and conveys to the buyer a real reason to favor wax sized papers.

Micro-photograph showing sample of paper texture in relation to dot impressions from printing halftone.
One paper may be rougher than another at testing pressure (10 lbs. with the Bekk instrument), while smoother at printing pressure (150 lbs.).
Courtesy of the New York & Pennsylvania Company, Paper Manufacturers.

In addition to many new specialties for the paper field, Cyanamid supplies:

WAX SIZES • COATING MATERIALS
ROSIN SIZES • SYNTHETIC RESINS
CASEIN • ALUM • TAPIOCA FLOUR
SULPHONATED OILS • FILLERS
DEFOAMERS
AEROSOL* WETTING AGENTS and
OTHER PAPER CHEMICALS

*Trademark of American Cyanamid & Chemical Corporation applied to wetting agents of its own manufacture.

Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

The Effect of Washing on the Strength of Bleached Sulphate Pulp*

By E. H. Smith[1], A. B. Moore, Jr.,[2] and K. G. Chesley[3]

Abstract

The method of determining soluble organic matter in bleached sulphate pulps by oxidizing with potassium iodate has been applied to a study of the effect of washing on the strength properties. It has been found that samples of pulp taken from the first washing after the final hypochlorite tower have as high strength characteristics as samples taken after additional washings. However, additional washings do result in less alum being required where alum is used to adjust the pH.

In certain instances excess alum adversely affects the bursting strength. A slowing of the stock paralleling the bursting strength loss was noted.

A large amount of work has been done recently on the bleaching of sulphate pulps. The effects of temperature, concentration, pH, and catalysts for various bleaching systems have been studied. The effect of improper washings on the various operations and on the properties of the finished products does not seem to have received as much investigation as it deserves. The practice in industry has been to attempt to offset improper washing by at all times having an excess of wash water. The engineering standards developed for quantities of wash water have in some instances stalled a planned bleaching plant development because of the high cost of producing adequate water. Prelinger *(1, 2)* has investigated the relation between soluble organic matter and color reversion for bleached sulphite pulps. He developed a method for determining the soluble organic matter by oxidizing with potassium iodate. The milligrams of oxygen consumed by 100 cc. of residual water he calls the *oxygen number.*

In this work the method of Prelinger has been applied to a study of the relation between soluble organic matter and some other properties of bleached southern kraft. In the production of bleached sulphate pulp two properties are of equal importance to color. These are strength and ability to take a relatively high size. This is particularly true for pulp that is to be made into paper or paper board for the food industries.

In the multistage bleaching of sulphate pulp as described by Phelps and Schuber, Chilson, and others *(3, 4)* the general procedure is chlorination and caustic extraction followed by one or more hypochlorite stages. The primary purpose of the hypochlorite stage is to oxidize the residual lignin, lignin chlorides, and other colored substances to form water soluble compounds. It has been suggested that one advantage of further hypochlorite stages is that more time is allowed for complete solution of the soluble impurities. To increase the stability of the pulps produced, a soaking stage after the final hypochlorite is often recommended. At this stage in the process the phenomena of diffusion and removal of absorbed and adsorbed organic compounds plays a major part. Diffusion of the organic impurities from the internal to the external surface of the fibers or the removal of these impurities from the surfaces of the fibers is a relatively slow process. For this reason variations in operating procedure which are most likely to occur at this point should be minimized and control methods devised to evaluate and regulate the effects of such variations. For example, in actual mill practice soaking of pulp in storage chests produces a pulp with less residual organic matter and consequently may offset to a considerable extent the needs of additional washing.

Aside from color reversion little information is available on the effect of variations in the amount of soluble organic matter on the finished products. Even for color reversion the problem is far from a solution. The use of sulphurous acid in the final soaking period has been found to reduce color reversion because of its iron reducing and antichlor properties. What effect this has on the soluble organic matter is not known. However, it is a fairly safe assumption that the lower the impurities the less likely the pulp is to revert in color. Any reduction will no doubt be beneficial.

The data reported here are the results of a study on the strength properties of bleached sulphate pulp given various washing treatments. The study of effect on sizing properties is in progress.

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Roosevelt Hotel, New York, N. Y., Feb. 17-20, 1941.

[1] Member TAPPI, Chemist, Crossett Paper Mills, Crossett, Ark.
[2] Member TAPPI, Technical Director, Crossett Paper Mills, Crossett, Ark.
[3] Member TAPPI, Research Chemist, Crossett Paper Mills, Crossett, Ark.

Procedure

The procedure was as follows: pulp of 75 brightness was sampled from various places in the system following the final hypochlorite bleach. A portion was beaten for 45 minutes in a laboratory beater. This stock was divided into 1-liter portions. One portion was allowed to stand 24 hours, then filtered for the oxygen number determination. To the other samples 1% of a combined rosin size and varying amounts of alum were added. Handsheets were made and bursting strength and tearing resistance was determined on each according to methods T 403 m-36 and T 414 m-40. Schopper-Riegler freeness and pH determinations by means of an electolytic pH indicator were made. Other portions of the original sample were soaked for varying periods of time in water at room temperature then washed and tested as above. The samples to be tested for organic matter were all made up to 2% moisture-free consistency and allowed to stand 24 hours before filtering. This period of time was found to be necessary to obtain reproducible results. All beating and freeness tests were made with untreated mill supply water with a methyl orange alkalinity of about 220 parts per million calculated as $CaCO_3$.

Results and Discussion

Pulps were examined possessing an oxygen number of from 14, for a pulp direct from the washer after the final hypochlorite, to 5 for a pulp after 24 hours soaking and washing. No measurable or reproducible difference was found in either the burst or tear for any given furnish made from these pulps. Differences were found in the amount of alum required to bring the stock to a given pH. In every instance an increase in soaking time and lowering of the oxygen number resulted in less alum being required. An interesting relation was found between the amount of alum added and the strength properties.

Data for two representative pulps are given in the accompanying graphs. Sample A is harshly bleached pulp with an oxygen number of 14 as sampled and 9.8 after 3 hours soaking and washing. Sample B was normally bleached pulp with oxygen number of 7.4 as sampled and 5.3 after 3 hours soaking and washing. In Fig. 1 the bursting strength is plotted against the alum concentration in grams of $Al_2(SO_4)_3 \cdot 18H_2O$ per liter of stock at 2% consistency. Figure 2 shows the Schopper-Riegler freeness against the alum concentration. Figure 3 shows the relation of pH to alum concentration.

It will be noted that after a certain alum concentration is reached the bursting strength and freeness both decrease perceptibly. This decrease in strength has been noted by Keller, Simmonds, and Baird *(5)*. They conclude that as the bicarbonate content of the

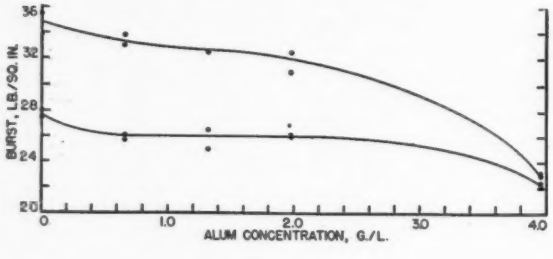

FIG. 1

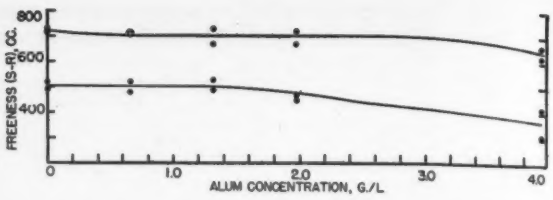

FIG. 2

fresh water used in a particular furnish increases, thus necessitating an increase in the amount of alum added to the stuff the strength properties of the papers, other than the tearing resistance, decrease. This is in accord with the results obtained in these studies. The tearing resistance did not show any decrease but the bursting strength did. All of the reported tests of Keller, *et al.* were made at a constant pH of 4.5. The results obtained in this work showing the strength with increasing amounts of alum indicate that this strength loss does not occur until a critical amount of alum has been added.

Considerable work has been done on the effect of alum on freeness *(6, 7, 8)*. Most of this work deals with the addition of alum to a furnish made with distilled water or water of unreported composition. Yorston advances the statement that "any acid, alkali or neutral salt will free a pulp." Adams, Simmonds, and Baird conclude that the freeness of pulps are in general, increased by small amounts of non-alkaline electrolytes. A search of the literature shows no references to work that has been done on the effect of adding electrolytes to a furnish made with water of varying composition such as that encountered in actual operation. It does seem that the conclusions reached by previous investigators are altogether too broad and are not inclusive enough to be applicable to actual mill conditions. At this time it is not possible to advance any adequate explanation for this divergence of results. It is interesting to note that the "slowing" of the pulp noted in this work occurred at approximately the same alum concentration as the decrease in bursting strength. This problem is being investigated further. These results are of interest here because they do have a bearing on the problem of washing pulp. As noted, less alum is required to bring the better washed pulps to a given pH. The difference is numerically about 20 pounds of alum per ton of stock at pH's 6.0 to 5.0 and about 28 pounds at pH 4.5. This is the saving effected by a 3-hour soaking and corresponds to a reduction in oxygen

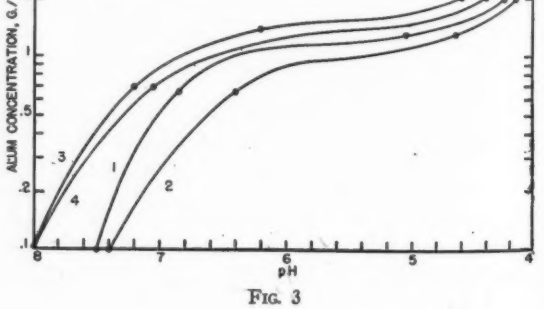

FIG. 3

number of about 3.5. It must be candidly stated that the reason for this is not as yet known.

Other than the added cost of alum when running a poorly washed pulp to a predetermined pH the possibility of strength loss must be taken into account. If the furnish is requiring enough alum to be past the critical point any thing which causes more to be required will lower the bursting strength and slow the stock. The obvious conclusions are that in order to reach the ultimate control over operating conditions both in bleaching and in stuff preparation serious thought must be given to the indirect as well as the direct effects of residual organic matter and the mineral composition of the process water.

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(7) Yorston, F. H., Forest Products Lab. of Can. Quar. Rev. (April-June, 1935).
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H. R. Braak Visiting the U. S.

H. R. Braak, technical expert to the Netherlands East Indies Government in Batavia, Java, has recently arrived in the United States in connection with a proposed plan for the erection of a kraft pulp and paper mill in Atjeh, Northern Sumatra, (N.E.I.).

There is a large demand for cheap kraft wrapping paper for local consumption in the Netherlands East Indies. It is considered that the use of multiwall and other type sacks and paper boxes, instead of gunny, plywood cases, etc., will improve the quality of various export bulk products, such as tapioca.

The raw material for the proposed mill will be a native pine tree, *Pinus Mercusii*, which is available in sufficient quantity to warrant a regular supply of pulpwood for a fair size mill. The pulpwood will be floated down the rivers to the mill.

Since it is the policy of the N.E.I. Government to strengthen the economical relations with the U.S.A. wherever possible, it was decided that the machinery and equipment for the mill would be obtained in this country. Also, because the operating problems (structure of the wood, climatologic conditions, etc.) are more similar to those prevailing in the Southern United States than to any other kraft producing country.

Dr. Braak visited the Southern United States early in 1938, where he was much impressed by the enormous developments of the kraft industry. The present decision of the N.E.I. Government and for Dr. Braak's visit to the U.S.A., is the direct result of this earlier study.

Dr. Braak has been a member of TAPPI since 1938.

J. E. Sirrine & Co., Engineers, of Greenville, S. C., have been retained to assemble the information as to equipment and prepare the necessary plans and reports.

TAPPI Notes

The Delaware Valley Section of The Technical Association of the Pulp and Paper Industry will end its current season with a dinner-dance at the Bala Country Club, Philadelphia, Pa., on June 6.

The Pacific Section of TAPPI will hold its annual meeting with the Pacific Superintendents Division at the Portland Hotel, Portland, Ore., June 6-7, 1941.

Gerard Larocque formerly of the Rolland Paper Company is now with the *New York Daily News*, New York, N. Y.

C. W. Scott, formerly chief chemist of the Moss Point, Miss., mill of the Southern Kraft Corporation is now at the Springhill, La., mill.

L. E. Russell, formerly chemist at the Deferiet, N. Y., mill of the St. Regis Paper Company is now with the Mathieson Alkali Works, Syracuse, N. Y.

O. E. Hedbring, formerly chemist at the Georgetown, S. C., mill of the Southern Kraft Corporation is now with the Continental Paper Company, Ridgefield Park, N. J.

J. H. Ver Hulst is now in the research department of the Minnesota and Ontario Paper Company, International Falls, Minn.

Leon Rubenstein has joined the technical staff of Peter J. Schweitzer Company, Elizabeth, N. J.

C. H. Reigl is now vice president of the John Nielsen Engineering Company, South Beloit, Ill.

E. G. Drew, formerly of the J. O. Ross Engineering Company is now a partner of the engineering firm of Drew and Hoffman, Portland, Ore.

Otto Brauns formerly of the Abitibi Power and Paper Company is now Secretary of the Swedish Association of Pulp and Paper Engineers.

Claud B. Christiansen formerly kraft mill chemist of the Crown Zellerback Corporation is now assistant chief chemist of the St. Regis Kraft Corporation, Tacoma, Wash.

Walter V. Piasecki formerly student at the New York State College of Forestry is now chemist for the Brown-Lipe-Chapin Division of the General Motors Corporation, Syracuse, N. Y.

Applied Heat Transmission

The McGraw-Hill Book Company has just published a practical book by Herman J. Stoever, Associate Professor of Mechanical Engineering at Iowa State College on "Applied Heat Transmission," (226 pages). It contains essential information on heat transmission in a simple and readily usable form, including equations, methods of applying them, and the solution of numerical problems. Emphasis is given to practical application rather than to theory.

The first three chapters deal with equations required for the solution of elementary problems involving heat transfer by conduction, radiation and convection. Numerous charts and tables appear. By means of these charts, convection coefficients and values of the pressure drop of a number of fluids under various conditions can be quickly and easily determined. The last two chapters are devoted to a description of some of the more common types of heat transfer equipment and kinds of insulation used in industry. Equation for calculating the thickness of insulation required for several special conditions of industrial importance are given.

Copies may be obtained from the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd street, New York, N. Y., at $2.50 per copy.

Comparison of Sodium and Calcium Base Sulphite Acids*

By M. O. Schur[1] and R. E. Baker[2]

Abstract

The comparative merits of calcium-base, sodium-base, and mixed calcium- and sodium-base sulphite cooking acids in the manufacture of a papermaking pulp from a mixture of red spruce and balsam fir chips have been investigated in the laboratory. It has been found that if the cooking schedule is adjusted within practical limits to give approximately a constant degree of delignification, as measured by the permanganate number, no important advantage is apparent in the substitution of the more expensive sodium base for calcium base.

Much work has been carried out by different investigators on the sulphite cooking of wood with bisulphite acids prepared with various bases—e.g., magnesium, calcium, magnesium and calcium together, sodium, and ammonium. Miller and Swanson *(8)* give a fairly complete historical sketch of this work up to 1928, and they present data on experimental sulphite cooking of spruce with bisulphite acid prepared from these bases. Spruce thus cooked gave pulps of substantially the same yield and bleach consumption in all cases for their standard cooking procedure. The authors point out, however, that with highly resinous woods the kind of base in the cooking acid would probably be a factor of major importance.

Aside from the use of bisulphites having as a base calcium and magnesium together, as made from dolomitic lime, by far the greatest amount of investigation has centered about the substitution of sodium-base for calcium-base acids in the production of sulphite pulps. Many investigators claim, as pointed out by Chidester *(2)*, that certain woods which cannot be reduced with lime-base liquor can be satisfactorily reduced with soda-base liquors. Much of this work, however, is related to the use of the monosulphite of sodium in the neutral sulphite or semichemical process, which, according to Rawling and Staidl *(9)*, produces an easy bleaching pulp only at such high temperatures as to injure the fiber badly.

Clifford *(3)* points out that for sodium-base acids the bleach requirement of the pulp is lower than when calcium-base acids are used. Other investigators *(4 and 7)* have noted that for sodium-base acids the cooking is more rapid.

Richter *(10)* and Richter and Schur *(13)* claim high pulp yields for sodium bisulphite liquors of high concentrations of combined SO_2. Such high concentrations of base preclude the use of calcium bisulphites.

Clifford *(3)* and Dorenfieldt *(5)* state that by the use of sodium-base acids liming and pitch troubles are eliminated. Similarly, Alfthan *(1)* claims that with sodium-base acids it is possible to utilize fir and other highly resinous woods which would otherwise give rise to pitch troubles.

McGovern and Chidester *(6)* found that with easily pulped species, such as spruce and western hemlock, sodium-base acids gave pulps with less screenings and lower bleach requirements, but with lower yields than did calcium-base acids under the same cooking conditions. On this basis the authors postulate that when pulping to the same bleach requirement a sodium-base acid could be expected to give better yields and strength values. Refractory species, such as Douglas fir and the pines, are said to be more readily pulped with sodium than with calcium-base acids.

From the literature the chief impression gained is that a substitution of sodium base for part or all of the calcium base in the more common cooking acid is desirable in the pulping of highly resinous woods. It is the purpose of the present investigation to determine whether any important advantage in the use of the more expensive sodium base would be apparent in the preparation of strong, fairly easy-bleaching sulphite pulp for papermaking purposes from a mixture of approximately equal parts of red spruce and balsam fir indigenous to northern New England.

Procedures and Materials

Digesters

The two digesters used were stainless steel pots 7.75 inches in diameter and 11.5 inches in depth. The removable lids were fitted with thermometer well, relief line, and pressure gage, and a 0.25-inch pipe connection for the injection of water during the period of temperature rise. The digesters, suitably mounted, were mechanically rocked through approximately a 45 deg. angle at about 40 times per minute, and were heated by rheostat-controlled electrical heating elements fitted around each.

Cooking

In a directly heated commercial digester the cooking liquor is considerably diluted through the condensation of the steam, an effect which does not occur in the conventional method of operating electrically heated laboratory digesters. With an assumed usage of 6500 pounds of steam per ton of pulp, 43% yield, and a liquor to wood (moisture-free basis) ratio of 4.6 to 1, the combined SO_2 concentration would decrease by about 25% owing to the steam condensation. Consequently, water was injected into the laboratory digesters at 20-minute intervals according to a predetermined schedule based on the temperature rise, so as to give approximately the same dilution as would occur under the commercial conditions given above.

It is realized that in direct cooking a substantial amount of chemical is removed from the digester through wet relief, usually during the latter part of the cook; but this effect was not duplicated in the

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Roosevelt Hotel, New York, N. Y., Feb. 17-20, 1941.

[1] Member TAPPI, Director of Research and Development, Brown Co., Berlin, N. H.
[2] Research Chemist, Brown Co., Berlin, N. H.

experimental cooks, because it was judged to be of relatively minor significance so far as concerns the present study.

Preliminary cooks showed that, while with a typical quick-cook temperature schedule the maximum pressure of 85 lb. per sq. in. was reached at a temperature of 156 deg. F. in the mill digesters, this pressure was not reached in the laboratory digesters until the temperature was about 262 deg. F. In other words, if the same temperature schedule were followed, the pressure curves would be different. In order to lessen this discrepancy between laboratory and mill conditions, the mill pressure curve was duplicated by the injection of nitrogen from a pressure cylinder at 10-minute intervals into the laboratory digester until the maximum pressure was reached. The standard cooking curve used for these cooks and the schedule for the injection of water is given in Table I.

TABLE I.—DIGESTER TEMPERATURE AND PRESSURE SCHEDULES

900 g. wood (moisture-free basis)
4140 cc. acid

Time, hr.	Temp., deg. F.	Pressure, lb./sq. in.	H_2O injected, cc.
0	70	0	0
1	108	17	210
2	146	62	420
2¼	156	85	470
3	184	85	625
4	220	85	835
5	240	85	945
6	258	85	1045
7	272	75	1125
8	280	75	1170
8¼	280	75	....
9	280	57	....
9¼	280	40	....

Acid

The cooking acids were made by bubbling sulphur dioxide into a mixture of water and carbonate of the base.

Titrations for control purposes were made with standard iodine and sodium hydroxide solutions.

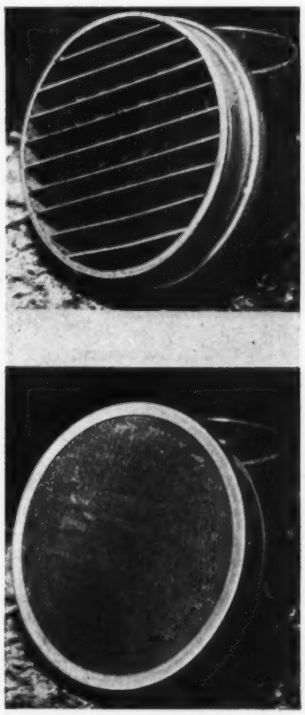

Fig. 1
Sheet Mold

Fig. 2
Sheet-Making Machine with Deckle and Stirrer Raised

Chips

Wood seasoned approximately one year was chipped in a commercial mill chipper. The results of chip size fractionation tests and an approximate analysis of the wood by species are given in Table II.

TABLE II.—CHIP SIZE FRACTIONATION
(Wood moisture—48.6%)

Retained on	Grams	Weight, %
1 inch	572	27.8
¾ inch	639	31.0
½ inch	535	26.0
¼ inch	265	12.9
Fines	48	2.3

Thickness
(1-inch fraction)

Thickness, inch	Grams	Weight, %
0-⅛	276	48.5
⅛-¼	263	46.2
¼-1	30	5.3

(¾-inch fraction)

0-⅛	154	24.2
⅛-¼	332	52.2
¼-1	151	23.6

Approximate percentage by species

Balsam fir (abies balsamea)	50
Red spruce (Picea rubra)	42
White spruce (Picea glauca)	5
Black spruce (Picea mariana)	3

Screening

The cooked fiber was removed by hand from the digester, was washed, stirred for 10 minutes at about 2.5% consistency with a high-speed mixer, and then screened through a laboratory, diaphragm-operated, 10-cut screen. All washing and pulp thickening was done on bleached nainsook.

Bleaching

Samples of the screened raw stock were bleached by B. G. Hoos according to a laboratory procedure closely paralleling the process developed by Richter and Schur *(12 and 13)*. The bleaching steps were as follows:

1. The pulp was treated with approximately 75% of the total chlorine requirement, as predetermined from the permanganate number (TAPPI Standard T 214 m-37), for 15 minutes at 4% stock density and 75 deg. F.

2. The prechlorinated pulp was treated for 5

minutes with an excess of SO_2 water, and then washed with distilled water. One fourth of 1% NaOH, based on moisture-free weight of pulp, was then added.

3. The treated pulp was bleached with sodium hypochlorite at 100 deg. F. and at 10% consistency to a final brightness of about 88% (General Electric reflection meter). Sufficient sodium hydroxide was added so that the final pH would be about 9.

4. The bleached stock was washed three times with distilled water by dilution to 2 to 3% consistency with each dilution followed by a thickening to 10 to 12% consistency. The washed pulp was then soaked for 15 minutes in a slight excess of SO_2 water, and was then again washed as described.

PULP STRENGTH TEST

Pulp strength tests were made after ball mill beatings based on the procedure originally published by R. B. Wolf, chairman of the TAPPI Committee on Sulphite Pulp *(15)*. The equipment and procedures involved were standardized or developed many years ago by Schur and have been used as a relatively precise method in Brown Company for over twenty years. Although the method has been described elsewhere *(11)*, it is here given for convenience and with the emphasis on different details.

Beating Procedure: Beatings are carried out in porcelain ball mill jars cemented into metal casings. The jars, supplied by the Abbe Mfg. Company, are purchased on the following specifications: internal volume, 16,500 to 16,800 cc.; inside diameter, 9.875 to 10 inches. New jars are first ground several hours with pebbles, water, and pulp, each charge of pulp being changed approximately every hour, and then are calibrated as described below.

A charge consists of 91.0 to 92.0 grams of fiber, on moisture-free basis, 115 to 125 hard, smooth, flint pebbles obtainable from the Abbe Mfg. Company, fairly uniform in size, weighing 4535 to 4545 grams, and a total of 1998 to 2002 grams of water preadjusted in temperature so as to bring the initial temperature of the ball mill charge to 22 to 24 deg. C. The mill is revolved at 55.5 to 56.5 r.p.m., and water is sprayed over it to maintain the temperature within the jar at 22 to 24 deg. C.

A new mill is calibrated by comparison of the slowness of a typical sample of pulp beaten in the ball mill 3020 revolutions with the slowness obtained with

FIG. 3
Sheet-Making Machine and Associated Apparatus

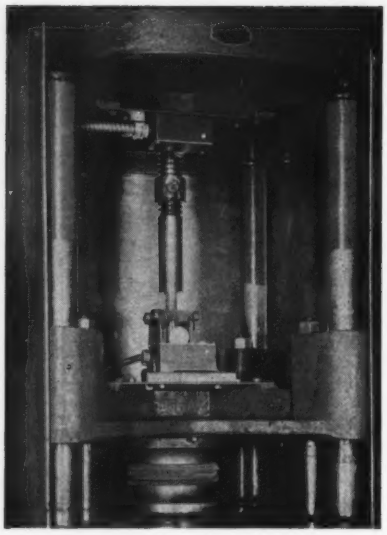

FIG. 4
Dead-Weight Press

the same pulp beaten the same number of revolutions in a standard ball mill pot having an internal volume of 16,500 cc. and which has been set aside for the sole purpose of calibration. Ordinarily the results should check within about 10%; as a matter of fact, of 100 jars thus calibrated during the past four or five years only two jars have had to be discarded because of failure to check.

As a jar is used, the volume increases through wear, slowness develops more rapidly, and the beating time should be correspondingly reduced. It has been established that within the range of ball mill jar volumes of 16,500 to 18,000 cc. the time of beating (or, better, the total number of revolutions as indicated on a counter) for standard results should be maintained inversely proportional to the volume. Ball mill jars are discarded when a volume of 18,000 cc. is reached.

Preparation of Test Sheets: After the beating has been completed, the pulp is washed from the pebbles through a coarse-mesh wire screen and is diluted to a total volume of 50 liters in a tub provided with an agitator. The water used is taken from a constant temperature supply at 22 to 24 deg. C.

The usual procedure calls for the preparation of sheets for burst (Mullen) and tear testing. Test sheets are formed on a 5-inch circular mold set into a brass cylinder provided with a valved outlet at the bottom through which the white water can be drained. The apparatus is shown in Figs. 1, 2, and 3. The first gives front and rear views of the sheet mold, the second shows the mold in place in the brass cylinder, and the third is a view of the sheet-forming machine with the hinged "deckle" portion of the cylinder clamped down.

In the preparation of a sheet, water at 22 to 24 deg. C. is added to the forming apparatus through a valved inlet at the bottom until the forming wire is covered to a depth of about 1 inch. A measured portion of the diluted suspension of beaten pulp prepared as above described is then poured into the mold. In the case of sulphite pulps, the volume taken is 760 cc. An oscillating stirrer, shown in Figs. 2 and 3, is pulled down until the prongs or fingers clear the wire

by 0.375 to 0.5 inch. The white water outlet is then opened and the water drained as the stirrer oscillates back and forth 2.375 inches through 85 complete cycles per minute. In order to prevent too rapid draining of the white water in the case of free pulps, a calibrated orifice is provided in the white water outlet line so that 760 cc. of water with no fiber present will flow through the mold in 10 seconds.

After the sheet has formed on the wire, the mold is removed from the cylinder and the sheet is couched on to a 6 inch disk of closely woven wool felt presaturated with water. Six sheets are thus prepared for the bursting strength test and 8 for the tear test. The sheets, on individual felts, are stacked into a pile, 6-inch metal disks are placed on the bottom and top of the pile, the top sheet being first covered with a wet felt. The stock is then pressed to remove excess water.

Pressing: The stack is placed centrally on a circular platen not much larger in diameter than the disks, and a 1-ton dead weight is lowered at a uniform rate by a mechanical drive at 100 inches per minute until the platen carried by the weight rests freely on the stack of sheets. Figure 4 shows a pile of sheets between the platens of the press. After the sheets have been subjected to the full pressure for 2 minutes, the excess water around the edges of the felts is quickly blown off with a jet of compressed air, the weight is raised, the stack of sheets inverted, the pressure again applied for 2 minutes, the excess water again blown off, and the weight raised. The sheets are now ready for drying.

Sheet Drying: After the sheets have been peeled off the felts, 6 are stamped lightly with shrinkage marks 4 inches apart, two pairs of marks being made, one in the machine direction (as determined from the direction of travel of the prongs or fingers of the stirring device during the formation of the sheet), the other in the direction at right angles. The 6 sheets are then dried 35 minutes in a current of air heated to 160-170 deg. F. and are transferred to the testing room, later to be examined for shrinkage during drying and for bursting strength.

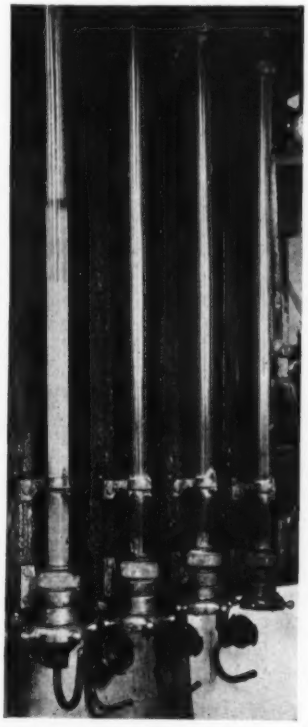

FIG. 5
Battery of Slowness Testers

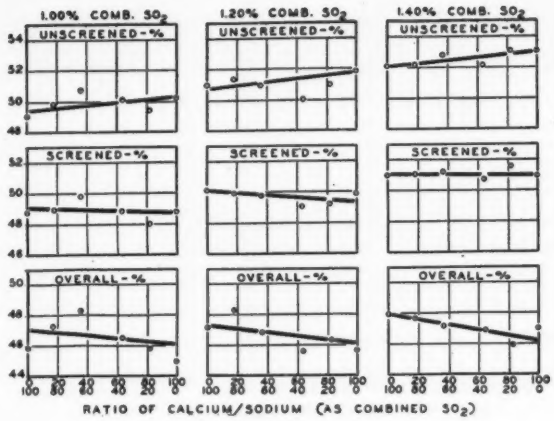

FIG. 6
Effect of Base on Pulp Yield

Eight of the pressed sheets are dried on a felt-covered horizontal 5-inch steam pipe, the internal temperature of which is regulated at 230 ±2 deg. F. Four of the sheets are placed on the pipe with the machine direction parallel to the center line of the pipe, and four are placed on the pipe with the machine direction at right angles. A blanket of woolen felt 11 inches wide is then wrapped carefully but tightly over the sheets against which it is maintained under pressure by means of a 5-pound weight suspended from a horizontal rod to which one end of the felt is sewed, the other end of the felt being fastened to a stay rod parallel to and below the pipe. The sheets are allowed to dry for 10 minutes. The actual temperature between the felts is 185 to 188 deg. F.

Sheet Conditioning and Testing: The room in which the sheets are tested is maintained automatically at 45 ±1% relative humidity at 70 ±1 deg. F. Before they are tested all sheets are seasoned in the room at least 60 minutes.

The bursting strength is determined on the air-dried sheets after these have been weighed to the nearest centigram and after the distance between the shrinkage marks has been measured to the nearest hundredth of an inch. The sheets are then ruptured in a special Mullen tester provided with smooth-faced, all-metal clamps ground and lapped together to insure proper action. The orifice is 0.500 inches in diameter, and pressure is applied on the rubber diaphragm at the uniform rate of 50 ±5 lb. per sq. in. per second by means of a specially devised mechanism *(14)*.

The location of the rupture marks on the test sheets is such that no test is taken under an area which has previously been pressed between clamp surfaces. One rupture is made in the center of the sheet, and 5 more near the periphery. The 6 sheets, tested in this manner, thus lead to a total of 36 readings.

In the calculation of the bursting strength, since the pressure required to burst the sheet is, on theo-

retical grounds, about 2.5 times that required in the conventional Mullen tester, which is provided with an orifice 1.25 inches in diameter, the average gage reading on the special testing machine is multiplied by 4/10. This value is divided by the basis weight (weight in pounds of 2880 sq. ft.) of the test sheets, which is derived from the direct weight of the test sheets multiplied by a factor based upon the diameter of the sheets before drying and upon the percentage shrinkage of the sheets during drying.

Although the percentage shrinkage of the sheets during drying is a convenient method of determining basis weight, its primary function is to throw light on the hydrating characteristics of the pulp.

The tearing resistance is determined on rectangular specimens 3.5 inches by 2.5 inches cut from the central portions of the 8 test sheets which have been dried between felts on the steam pipe. Four of the specimens are cut with the long side parallel to the machine direction, and 4 at right angles. Similarly cut rectangles are paired, and are tested with an Elmendorf tear tester in the usual way. The tear value is reported on the usual paper basis, namely, as "per cent tear".

Slowness Determination

Of the diluted suspension of beaten pulp, from which the test sheets were made, one liter is further diluted to 1800 cc. and the resultant suspension is adjusted in temperature to 20 $\pm$½ deg. C. The slowness tester is thoroughly flushed out with water at 20 deg. C. and the test suspension is then transferred to it. The slowness tester, shown in Fig. 5, consists of a vertical glass tube 48.5 inches long by 1.25 inches internal diameter provided at the lower end with a clamp into which is fastened a metal cup screened off at the bottom with a disk of 40x60 mesh Fourdrinier wire. The area of the screen exposed to the pulp suspension is 1.032 $\pm$.002 times the internal area of the glass tube.

Before each test, the clamp is closed, water added through the top end of the glass tube until the screen is covered, and a stopper inserted in the drain.

After the suspension has been transferred to the tube, the rubber stopper at the end of the drain is withdrawn, and the time in minutes is noted for the level of the column of dilute pulp suspension to drop 38.0 inches. This time is considered to be the slowness of the pulp.

Precision of Measurements: Under ordinary circumstances, duplicate bursting strength tests made in the same laboratory or in different laboratories should agree within 3%, tear tests within 6%, and slowness determinations within 10%.

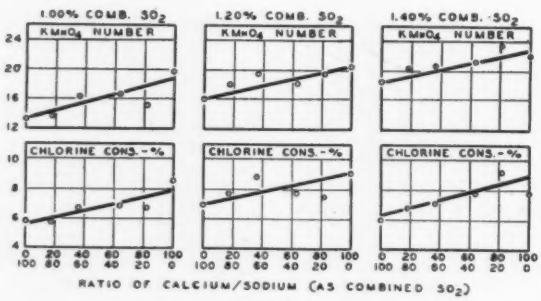

Fig. 7
Effect of Base on Degree of Cooking

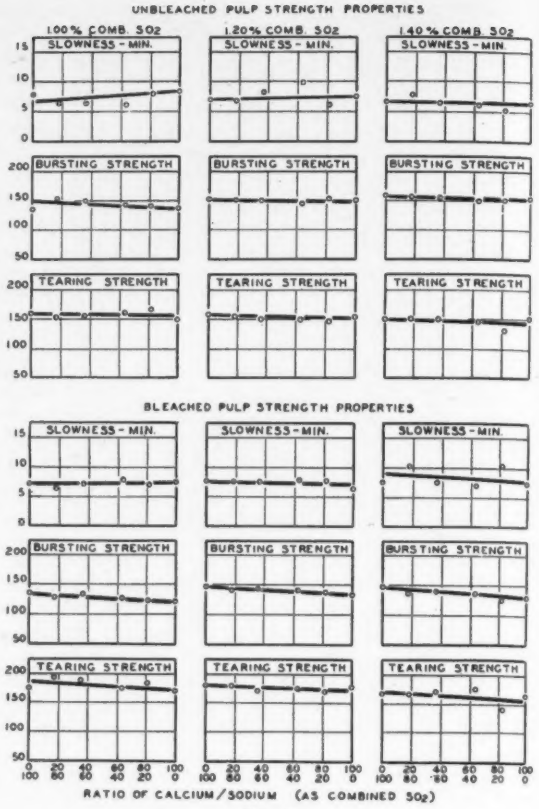

Fig. 8
Effect of Base on Strength Properties

Results and Discussion of Results

Cooking Conditions Constant

Three series of cooks were made with combined SO_2 concentrations of 1.00, 1.20, and 1.40 $\pm$0.04%, respectively. For each series all calcium and all sodium-base cooks, together with 4 mixed-base cooks of varying ratios of Ca/Na, were made. In the accompanying charts the ratio of Ca/Na given is the ratio of "combined SO_2" combined with CaO to that combined with Na_2O. The free SO_2 concentration was kept constant at 5.00 $\pm$0.10%, and the liquor to wood ratio (moisture-free basis) constant at

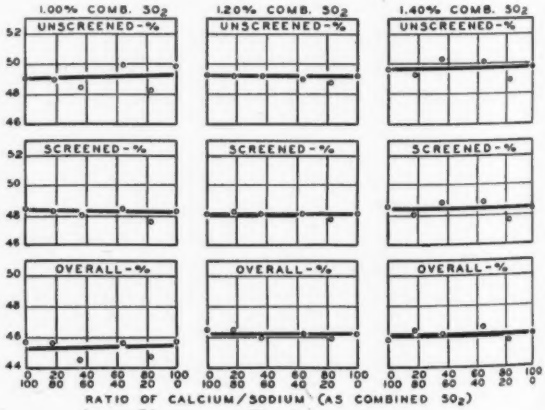

Fig. 9
Effect of Base on Pulp Yield

4.6/1.0. The cooking conditions given in Table I were used for all cooks in these series.

Effect of Base on Pulp Yield: In Fig. 6, when the percentage combined SO_2 was kept constant, the yield of unscreened pulp increased and the yield of screened raw stock dropped slightly as the ratio of Ca/Na was increased. This decrease in yield of screened raw stock was due to a higher percentage of screenings. The yield of bleached pulp based on wood, designated in Fig. 6 as "over-all-%", decreased not only because of the higher percentage of screenings but also because of a greater loss in weight of fiber during bleaching, probably owing to the higher bleach requirement of the pulp.

An increase in the percentage combined SO_2 with a given ratio of Ca/Na caused an increase in the yield of both the unscreened and screened raw stocks. However, the yield of bleached pulp based on wood varied but little, owing to a greater bleaching loss for the pulps cooked with the higher concentrations of combined SO_2. The increased raw stock yields which followed an increase in the combined SO_2 content of the cooking acid were probably due to the lesser degree of cooking realized with such acid.

Effect of Base on Permanganate Number and Chlorine Consumption: In Fig. 7, with the same cooking conditions there was an increase in permanganate number as calcium-base acid was substituted for sodium-base acid; and there was an increase in permanganate number as the percentage combined SO_2 was increased. Both of these effects are in line with the explanation suggested above for the trends in pulp yields.

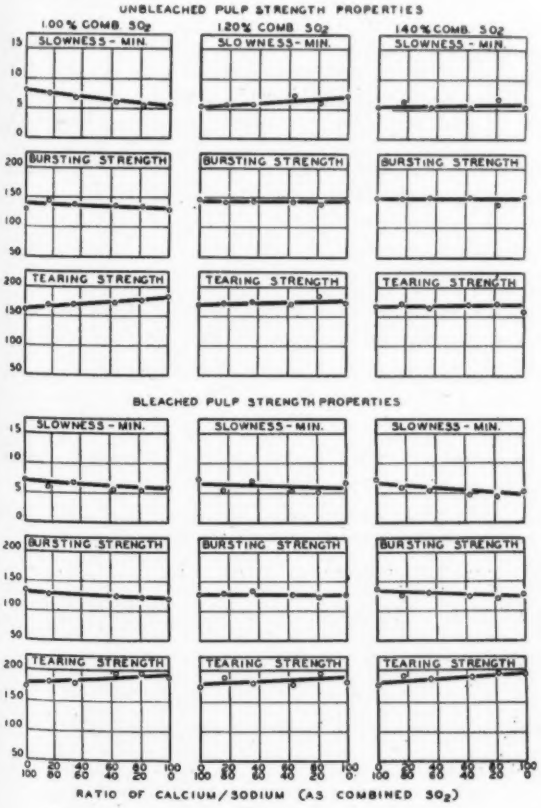

FIG. 10
Effect of Base on Strength Properties

COOKING CONDITIONS CONSTANT

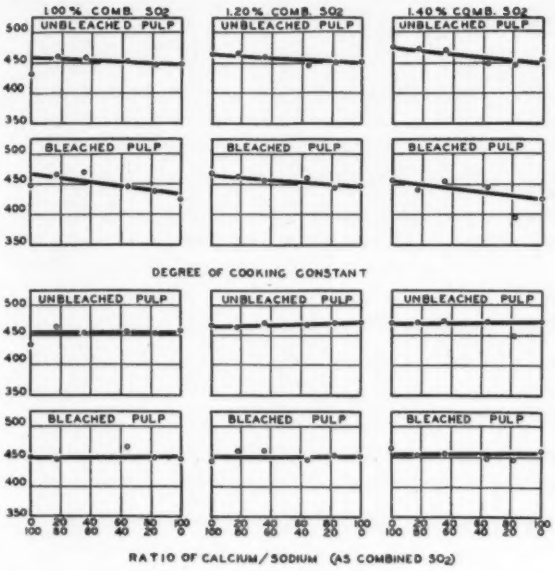

FIG. 11
Effect of Base on Pulp Beater Value

The total chlorine and bleach consumption, calculated as chlorine, correlated well with the permanganate numbers, with the possible exception of that for the 1.40% combined SO_2 cooks. For these pulps the total equivalent chlorine consumed was about the same as for the 1.20% combined SO_2 pulps, despite the fact that the permanganate numbers were higher. However, slightly more chlorine was used in the first stage for these 1.40% combined SO_2 cooks which might have a bearing on this discrepancy.

Effect of Base on Strength Properties: In Fig. 8, when calcium base was substituted for soda-base acid, the strength properties decreased slightly, particularly the bursting strength. There was no significant difference in strength properties for the different percentages of combined SO_2 investigated, other conditions being constant. The trends in bleached stock strength properties were much the same as for the raw stock, except that the decrease in bursting strength with an increase in the ratio of Ca/Na was more pronounced.

Degree of Cooking Constant

The preceding work showed that when the same temperature schedule and cooking conditions were used, the substitution of calcium-base acid for soda-base acid in the cooking liquor decreased the rate of delignification as measured by permanganate number —i.e., a harder bleaching pulp resulted. The bleached pulp yield was somewhat lower. Since there was a considerable difference in permanganate number and in bleach requirement between the sodium and calcium-base pulps when cooked under the same conditions, it seemed logical to compare these bases from the standpoint of pulp yield and quality when the cooking conditions were adjusted to give the same degree of cooking for each acid.

The maximum temperature was adjusted to give approximately the same degree of cooking for each acid with a constant cooking time of 9.75 hours. When this maximum temperature was changed to

TABLE III.—COOKING DATA
DEGREE OF COOKING CONSTANT

Cook	Max. temp. deg. F.	Ratio of Ca/Na (1)	$KMnO_4$ number	Chlorine consumed %	Brightness %
		1.00% Combined SO_2			
92B	280	All Na	13.4	5.90	87.9
122B	282	2/9	12.0	5.65	87.3
136B	283	4/7	12.5	...	88.9
139B	286	7/4	13.9	...	88.3
138B	288	9/2	12.2	5.75	88.3
135B	290	All Ca	15.7	5.97	87.5
		1.20% Combined SO_2			
132B	283	All Na	12.9	5.34	88.7
126B	285	2/9	14.3	5.50	87.5
128B	287	4/7	14.0	5.40	87.6
129B	290	7/4	16.7	6.46	88.2
127B	292	9/2	12.6	4.74	88.8
131B	294	All Ca	14.3	5.78	88.2
		1.40% Combined SO_2			
120B	286	All Na	14.0	6.13	85.8
116B	288	2/9	12.6	5.24	88.5
145B	290	4/7	16.9	6.68	86.9
146B	293	7/4	14.5	5.83	85.8
115A	295	9/2	16.6	6.34	87.4
119A	297	All Ca	17.9	7.47	86.7

(1) Calculated as combined SO_2.

give the same degree of cooking for the different acids, a schedule of 4 hours to 220 deg. F. and 8 hours to the maximum temperature selected was used. For the different percentages of combined SO_2 and for the different ratios of Ca/Na the maximum temperatures were as shown in Table III. A permanganate number of 14, with a total chlorine consumption of about 5.8-6.0%, was selected as standard for these cooks.

Effect of Base on Pulp Yield: When the maximum temperature was varied as shown in Table III to give approximately the same degree of cooking for each of these acids, the effect of base used on pulp yields is as shown in Fig. 9. The unscreened, screened, and bleached pulp yields were, within experimental error, constant whether a sodium, mixed, or calcium-base cooking acid with a given concentration of combined SO_2 was used. The unscreened and screened pulp yields for the different concentrations of combined SO_2 investigated were constant, but the yield of bleached pulp was higher by about 1% when the combined SO_2 was increased from 1.00 to 1.20%.

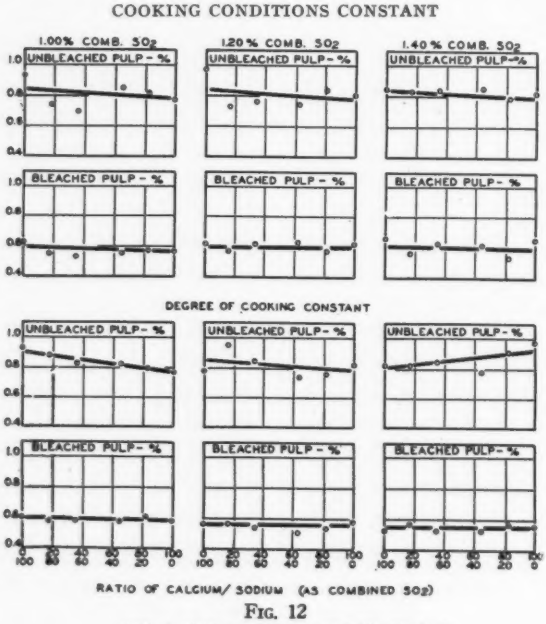

FIG. 12
Effect of Base on Ether Soluble Content

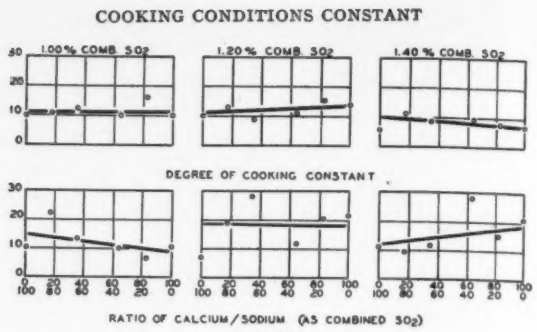

FIG. 13
Effect of Base on Red Speck Count

There was no further gain in yield when the combined SO_2 was increased to 1.40%.

Effect of Base of Strength Properties: In Fig. 10, the bursting strength values tended to decrease with an increase in the ratio of Ca/Na. However, this decrease was associated with an increase in the tearing strength. This was particularly true in the case of the bleached pulps. In the case of the bleached pulps the slowness decreased, indicating that the calcium-base stock was more resistant to beating.

Effect of Base on Beater Values: If an arbitrary beater value is calculated for each stock as the tearing strength plus twice the bursting strength, the results are as shown in Fig. 11. When the same temperature schedule was used, an almost uniform drop in beater value resulted for both the raw and bleached stock as the ratio of Ca/Na was increased, and but little variation followed changes of the combined SO_2 concentration. When the maximum temperature was adjusted to give the same degree of cooking for each acid, however, the beater values were the same for the different ratios of Ca/Na as long as the concentration of combined SO_2 was maintained fixed, but as the combined SO_2 was increased from 1.00 to 1.20% the raw stock beater value increased. This increase, however, was only slight for the bleached stocks.

Effect of Base on Ether-Soluble Content: With the exception of the 1.40% combined SO_2 acid cooks where the degree of cooking was kept constant, the ether-soluble content of the raw stocks decreased as calcium-base acid was substituted for soda base in the cooking liquor. The ether-soluble content of the bleached stocks was nearly constant throughout, and no significant differences were noted for the different concentrations of combined SO_2 used *(see* Fig. 12).

Effect of Base on Red Speck Count: Because of the ease of contamination of the pulp with specks in laboratory cooking and bleaching procedures, comparisons of the laboratory-prepared pulps as to cleanliness are not wholly reliable; however, red speck counts were made in an endeavor to determine the effect of base used on this type of wood-dirt content of the pulp. In Fig. 13, no significant changes in speck count were noted when the ratio of Ca/Na, or when the concentration of combined SO_2 was varied.

Conclusion

When similar cooking conditions were used the bleached pulp yield and strength properties decreased, and the bleach requirement increased, as the ratio of Ca/Na in the cooking acid was increased. As the percentage combined SO_2 was increased the cooking

yield and bleach requirement increased, yet there was no difference in bleached pulp yield or strength properties.

When the temperature schedule was varied to give approximately the same degree of cooking, as measured by bleachability, the pulp yield and beater values remained the same whether the calcium, mixed, or sodium base cooking acid was used. For an increase in the ratio of Ca/Na, the slowness and the bursting strength after 50 minutes milling were lower, but the tearing resistance was higher. An increase in the combined SO_2 from 1.00 to 1.20% caused about a 1% increase in over-all pulp yield, but only a slight increase in pulp strength properties. A further increase to 1.40% combined SO_2 showed no advantage.

The ether-soluble content of the raw stocks tended to decrease with an increase in the ratio of Ca/Na, but that of the bleached stock was substantially constant throughout.

So far as these laboratory results are concerned, the only advantage to be expected from the substitution of sodium bisulphite for a part or all of the calcium bisulphite in a bisulphite acid would be that milder cooking conditions could be used with a slight saving of steam or cooking time. If, however, these results can be applied to a commercial operation, the lower cost of using a calcium bisulphite acid would more than justify the slight increase in steam cost or cooking time required to obtain from a mixture of spruce and fir the same combination of pulp yield and quality as would result from using a soda or mixed-base cooking acid.

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The Chemipulper*

By Arno W. Nickerson[1]

Abstract

The chemipulper is an Asplund defibrator plus a Beveridge-Kehoe reaction chamber. The process is basically a combination of continuous cooking under controllable conditions of time of treatment, pressure, temperature, and chemical concentration plus controllable refining under pressure and in the presence of chemicals and resulting reaction compounds.

Commercial application has been in the roofing felt industry using pine wood and caustic treatment. Small commercial runs have been made, using Maryland wheat straw and sodium sulphite treatment; pine wood and sodium sulphite plus H_2SO_3; mixtures of sodium hydroxide and sodium sulphite. Handsheets were made and tested by TAPPI Standards.

The chemipulper is an Asplund Defibrator with a Beveridge-Kehoe reaction chamber interposed between the feed and the defibrator refiner, thus increasing the time the raw material is subjected to temperature and pressure. The size of the reaction chamber depends upon the degree of treatment necessary to produce the quality of fibre and pulp desired. The chemipulper is therefore essentially a combination of continuous digestion (cooking) with continuous refining under pressure.

Batch processes of cooking have long been the accepted practice. Recently continuous processes of cooking have reached a high state of development and the economies of continuous cooking methods appear to be important. The continuous chemipulper is so designed as to allow steam pressure and temperature control, a definite time cycle, a measured continuous chip feed, a measured continuous chemical feed and controllable degree of refining under pressure.

Chipped or even hogged wood or annuals cut to proper length may be fed from a bin to the continuous feeding unit. The reaction chamber and the interior worm conveyor are fabricated of stainless steel. Chemicals are atomized with the steam into the preheating chamber. Steam pressure may be as high as 180 pounds per square inch. Treating time has not been longer than 10 minutes at present state of development. Pressure refining by means of a disk unit, designed primarily for separation of fibre bundles, is the only apparatus available at present, hence strength development has been limited.

At the 1926 Fall Meeting of the Technical Association of the Pulp and Paper Industry, Rue, *et al. (1)* emphasized the value of modified cooking processes and pointed out that many methods of pulping had been developed, including mild chemical treatment under steam pressure, followed by mechanical disintegration at atmospheric pressure. The chemipulper, however, progresses one more step in that refining is done under pressure and without washing.

Chemicals

A range of chemicals of varied concentration have been applied, including pretreatment with acids and treatment with sodium carbonate, sodium hydroxide, and sodium sulphite. The latter, termed neutral sulphite, is a logical method of treatment because of its relatively low cost, its reducing action, and the solubility of its compounds.

To sodium sulphite can be added sufficient quantity of sodium carbonate, or hydroxide to neutralize such organic acids as are liberated and thus main-

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[1] Member TAPPI, Consulting Engineer, 542 Fifth Ave., New York, N. Y.

tain the neutrality of the reaction as cooking proceeds. Concentration of chemicals, time, and pressure during treatment will be governed by species of wood or annuals to be treated.

Application in the Industry

Early wide application started in the absorbent felt industry in which 5 to 20% straight Asplund fibers were furnished in order to reduce rag consumption and reduce costs. At present there are two chemipulper units in operation, using pine and the sodium hydrate process of cooking. The results given in the tables are typical.

APPLICATION IN DRY FELT INDUSTRY

Grade: 40 lb. to 65 lb. medium felt
Furnish: Rags 20%
Chemipulper fiber 60%
Old papers 20%

Dry Felt Tests, Average of 4 rolls.

Weight	Caliper	Tensile (Scott)	Burst	Kerosene Absorption	Density
51	0.061 in.	40	30	207	18

YIELD

Pine wood yields 12 lb. of fiber per cu. ft. of moisture-free chipped wood.
Yield has been determined as 86%.
Production is 1100 lb. moisture-free pulp per hour or 13.2 tons.

ADVANTAGES

The felt industry not only profits through the use of lower cost fiber but is in an excellent position to stabilize the cost of raw rags, of particular importance today when foreign sources have been largely cut off.

POSSIBLE APPLICATION IN STRAWBOARD

Laboratory Tests on Short Commercial Runs

(Test data for handmade sheets of chemipulper straw pulp not washed, beaten, or jordaned)

Raw Material: Maryland wheat straw

No.	Treatment of Straw	Burst, %	Riehle %, ½ in. by 2 in.	Tensile, F	Tearing lengths in meters, 1 in. by 5½ in.
4	10 Na_2SO_3, 10 min. Washed, beaten, and jordaned	51.0	27.7	33.2	3480
	Regular 0.009 inch Straw paper				
	Machine direction.....	...	24.0	30.5	3180
	Cross	...	16.3	13.1	1620
	Average	20.1	20.2	21.8	2400

PINE 3% NaOH TREATMENT
TAPPI Beater Test

Beating, min.	Freeness, cc.	Bulk	Burst factor	Tear ratio	Breaking length (meters)	Stretch, %
0	765	5.15	2.42	0.17	....	..
20	730	4.85	3.08	0.23	235	0.8
40	687	4.18	5.5	0.31	458	1.0
70	475	2.96	8.15	0.50	1290	1.4
85	305	2.66	17.4	0.58	1760	1.6
100	144	2.44	24.2	0.46	2830	1.6

Minutes	Fibrillation	Fiber length, mm.	Screen classification at 100 min. mesh	%
0	none	2.5	28	1.0
20	slight	2.4	28/48	22.0
40	slight	2.1	48/100	23.7
70	fair	1.1	100/200	25.0
85	good	0.85	Pass 200	28.3
100	good	0.5		

PINE 6% NaOH TREATMENT
TAPPI Beater Test

Beating, min.	Freeness, cc.	Bulk	Burst factor	Tear ratio	Breaking length (meters)	Stretch, %
0	750	4.55	6.6	0.53	220	0.5
20	675	3.52	10.8	1.05	800	1.5
40	565	2.94	27.9	1.19	1860	2.0
60	375	2.38	38.7	1.25	2910	2.3
75	212	2.06	47.	0.88	3680	2.5
90	88	1.89	54.34	0.74	4150	2.9

Minutes	Fibrillation	Fiber length, mm.	Screen classification at 90 min. mesh	%
0	none	2.7	28	5.2
20	started	2.4	28/48	28.4
40	fair	1.8	48/100	18.0
60	good	1.4	100/200	18.1
75	excellent	1.1	Pass 200	30.3
90	very good	0.9		

PINE 6% Na_2SO_3 TREATMENT
TAPPI Beater Test

Beating, min.	Freeness, cc.	Bulk	Burst factor	Tear ratio	Breaking length (meters)	Stretch, %
0	765	5.40	....	...	....	..
20	748	4.90	4.62	0.41	200	0.5
40	728	4.60	8.35	0.49	650	0.8
55	700	4.08	11.9	0.66	930	1.2
70	660	3.85	17.6	0.73	1240	1.8
85	590	3.60	23.3	0.87	1620	2.0
100	510	3.52	28.2	0.75	2040	2.0
120	360	3.18	32.6	0.65	2680	2.0
135	95	2.38	40.5	0.56	3200	2.0

Minutes	Fibrillation	Fiber length, mm.	Screen classification at 135 min. mesh	%
0	none	2.7	28	2.1
20	none	2.7	26/48	26.5
40	slight	1.9	48/100	21.9
55	slight	1.7	100/200	21.5
70	fair	1.4	Pass 200	28.0
85	fair	1.4		
100	good	1.0		
120	good	0.7		
135	very good			

PINE 6% Na_2SO_3 & SO_2 TREATMENT
TAPPI Beater Test

Beating, min.	Freeness, cc.	Bulk	Burst factor	Tear ratio	Breaking length (meters)	Stretch, %
0	779	5.50	2.86	0.26	120	0
20	749	5.45	5.06	0.28	230	0.5
40	731	4.86	7.48	0.66	665	1.4
75	644	3.10	23.1	0.95	1880	1.9
95	372	2.76	27.3	1.18	2410	2.0
115	176	2.19	34.8	0.82	2960	2.2
130	165	1.87	42.7	0.70	3540	2.3

Minutes	Fibrillation	Fiber length, mm.	Screen classification at 130 min. mesh	%
0	none	2.7	28	17.6
20	none	2.5	28/48	18.3
40	fair	2.4	48/100	28.6
75	good	1.8	100/100	14.2
95	good	1.4	Pass 200	20.3
115	excellent	1.2		
130	excellent	0.9		

Note: Weight used on beater lever arm, 4500 grams.

Probable Commercial Application

Initial developments in chemipulp indicate that cost will be low, and that strength values at even high yields (86%) are in a range which will be satisfactory for a "freeing" filler for chipboard. At lower yields and applied to deciduous woods, fibres produced will be useful in many grades of solid wood pulp boards. Converter mills, located in areas where birch or poplar is available at low cost, can produce a portion of their pulp needs at low cost and at a reasonable capital investment. Straw for ninepoint corrugating board can be produced at considerable saving over present cooking methods. Fibers for ninepoint kraft corrugating board can be produced at definite economy levels.

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T. H. Johnston Given Dinner

Thomas H. Johnston, general superintendent of the Roger Paper Manufacturing Company, was honored by his associates with a dinner party recently at the Nathan Hale Hotel in Willimantic, Conn., celebrating his 20 years' service with the company.

R. F. Hawley, assistant treasurer of the company, was toastmaster. S. M. Silverstein, vice-president and general manager; and R. A. St. Laurent, vice-president, of the company, spoke. A gift was presented to Mr. Johnston.

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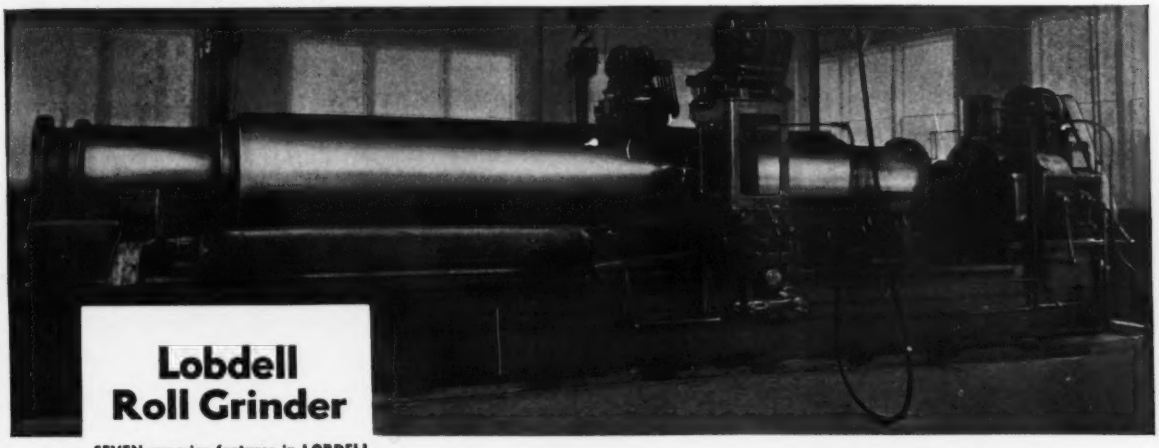

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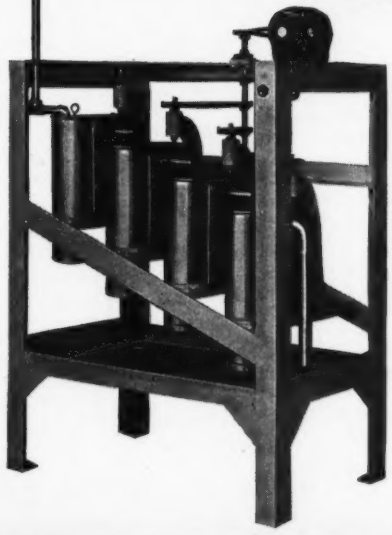


- The Bauer Classifier makes possible a precise determination of stock properties at any time during the beating or refining process.
- Provides four pulp fiber fractions by direct weight, one by difference.
- Shows physical variations, which can be checked, giving laboratory control over stock uniformity.
- Sturdy, unit-welded steel construction, maintenance-free operation.

Write now for full information

THE BAUER BROS. CO.
SPRINGFIELD, OHIO

The BAUER CLASSIFIER

Imports of Paper and Paper Making Stock

Giving Manifests of New York, Boston, Philadelphia and Other Ports of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard; Bleached Sulphite More Acute—Some Grades of Old Waste Lower.

Effective September 30, 1939, under Treasury Decision 49,970, all publications, exchanges and trade associations, were denied access to import manifests at the New York Customs House. The Paper Trade Journal and other interested parties have vigorously protested this ruling, and as soon as the order of the Treasury Department is modified or rescinded, full publication of all manifests will be resumed in these columns. In the interim, the Paper Trade Journal is making every possible effort to gather all available information from manifests, at various outside sources.

NEW YORK IMPORTS

WEEK ENDING MAY 10, 1941

SUMMARY

Cigarette paper.....712 cs.
Newsprint.....302 bls., 18,325 rolls
Wall paper.....5 cs.
Wrapping paper.....52 bls., 48 rolls
Cardboard.....130 cs.
Miscellaneous paper.....185 cs.

CIGARETTE PAPER

American Tobacco Co., ——, Lisbon, 712 cs.

NEWSPRINT

——, ——, Liverpool, N.S., 6,123 rolls.
International Paper Co., ——, Gatineau, 288 rolls.
——, ——, Cornerbrook, 3,946 rolls.
——, ——, Comeau Bay, 6,972 rolls.
H. G. Craig Co., Inc., ——, Donnacona, 384 rolls.
H. Reeve Angel & Co., Inc., ——, Petsamo, 302 bls., 612 rolls.

WALL PAPER

Titan Shipping Co., ——, Petsamo, 5 cs.

WRAPPING PAPER

Walker-Goulard-Plehn Co., Inc., ——, Petsamo, 52 bls.
Jay Madden Corp., ——, Petsamo, 48 rolls.

CARDBOARD

Gondrand Shipping Co., ——, Lisbon, 80 cs.
Gondrand Shipping Co., ——, Genoa, 50 cs.

MISCELLANEOUS PAPER

Japan Paper Co., ——, Kobe, 100 cs.
Corn Exchange Bank Trust Co., ——, Kobe, 33 cs.
General Electric Co., ——, Kobe, 25 cs.
National City Bank, ——, Kobe, 27 cs.

RAGS, BAGGINGS, ETC.

1st National Bank of Boston, ——, Recife, 78 bls. cotton residue.
Castle & Overton, Inc., ——, Buenos Aires, 43 bls. new cotton cuttings, 3 bls. threads, 37 bls. old hemp canvas.
New England Waste Co., ——, Kobe, 50 bls. cotton waste.
Green Textile Associates, ——, Shanghai, 100 bls. cotton waste.
A. W. Fenton, Inc., ——, Montevideo, 11 bls. rags.
American Trans-Oceanic Sales Corp., ——, Buenos Aires, 5 bls. rags.
——, ——, Buenos Aires, 6 bls. rags.
Bunge North American Grain Co., ——, Santos, 8,734 bls. cotton linters.
New England Waste Co., ——, Santos, 910 bls. cotton linters.
National City Bank, ——, Santos, 3,360 bls. cotton linters.
——, ——, Santos, 6,947 bls. cotton linters.
Lush Cotton Products Co., Inc., ——, Santos, 105 bls. cotton linters.
M. Feitelson & Son, ——, Callao, 6 bls. rags.
Corn Exchange Bank Trust Co., ——, Callao, 4 bls. rags.
Lush Cotton Products Co., Inc., ——, Rio de Janiero, 95 bls. cotton linters.
New England Waste Co., ——, Santos, 807 bls. cotton linters.
Kauders Steuber Co., ——, Santos, 474 bls. cotton linters.
——, ——, Santos, 3,776 bls. cotton linters.
Hercules Powder Co., ——, Santos, 1,463 bls. cotton linters.
1st National Bank of Boston, ——, Santos, 89 bls. cotton linters.

GLUE STOCK, ETC.

Manufacturers Trust Co., ——, Buenos Aires, 31 bls. glue stock.
Manufacturers Trust Co., ——, Vera Cruz, 273 bls. glue stock.
E. Vadillo Ruiz, ——, Havana, 89 bls. fleshings.

HIDE CUTTINGS

Karch Import Co., ——, Manila, 262 bls.

CASEIN

A. Hurst & Co., Inc., ——, Montevideo, 1,000 bags.
C. W. Burckhalter, ——, Buenos Aires, 417 bags.
A. Hurst & Co., Inc., ——, Buenos Aires, 1,517 bags.
H. S. Cramer & Co., ——, Buenos Aires, 917 bags.
Casein Co., of America, Inc., ——, Buenos Aires, 1,020 bags.
American British Chemical Supplies, ——, Buenos Aires, 1,000 bags.
Kurt Fleischner, ——, Buenos Aires, 167 bags.
Trans-Atlantic Animal By Products Corp., ——, Buenos Aires, 303 bags.

WOOD PULP

Pulp Sales Corp., ——, Petsamo, 9,245 bls. sulphate cellulose.

LOS ANGELES IMPORTS

WEEK ENDING MAY 10, 1041

——, ——, Kobe, 4 cs. rice paper, 1 cs. envelopes, 8 cs. hanging paper, 3 cs. tissue paper.
——, ——, Yokohama, 2 cs. hanging paper.
——, ——, Osaka, 3 cs. tissue paper.
——, ——, Hong Kong, 1 cs. envelopes.

Chemical Pulp on Control List

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 14, 1941 — Chemical wood pulps have been placed under the export licensing system by a Presidential proclamation. The order is effective June 3.

It is pointed out in the proclamation that the articles and materials, of which chemical wood pulp is only one, must be controlled "due to the accelerating needs of the National Defense."

SONOCO

PAPER MILL CORES

RHINO
NON-RETURNABLE

For all uses that require an extremely tough, strong, durable product, SONOCO has developed the new RHINO non-returnable paper mill core. Exhaustive tests for breaking and crushing strength and all around toughness indicate its superior qualities.

Returnable Cores
Equipped With
BERMICO* Metal Ends

DURO is a standard core of plus-standard quality. Made from our own especially manufactured paper stock. DURO cores are made standard 3½" I. D. These cores are equipped with BERMICO open or closed notch, metal ends to fit 3" shaft. TAYLOR Ends that protect inside of core only, can also be specified.

EN-DURO a super-quality core to meet extra demands for strength and service where needed. This is our highest grade core. All cores will take either BERMICO or TAYLOR Ends which can be furnished lacquered in various colors for easy identification... Both DURO and EN-DURO cores have a thick kraft surface cover.

*(Reg. Trade Mark)

Exclusive distributors
BERMICO
(Reg. Trade Mark)
ENDS
and
BERMICO
(Reg. Trade Mark)
FIBRE CORES

Strong cellulose fibres are formed into a homogeneous tube and then especially treated to resist all weather and moisture changes. The Bermico Core is light in weight and extremely hard, strong, rugged. These particular cores have exceptionally long life in either returnable or mill roll service.

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. · HARTSVILLE S. C. · MYSTIC CONN.

SHIPPING POINTS: LOWELL, MASS. HARTSVILLE, S. C.

DEPENDABLE SOURCE OF SUPPLY

Special
CORN STARCHES AND GUMS
for Specific
PAPER NEEDS

STEIN-HALL research has developed outstanding *special* starches which have received wide acceptance. Among them are:

ENZO . . Finest corn product for enzyme conversion.

COLLOIDITE . . Superior tub-sizing starch for economy and quality.

SUPERCOTE . . Outstanding improvement for high adhesive value and flow qualities in brush coating.

TECHNICAL SERVICE . . Our paper men, with their broad technical experience, are ready to help you without obligation.

STEIN, HALL & COMPANY, INC.
285 MADISON AVENUE • NEW YORK

STEIN-HALL MFG. COMPANY
2841 S. ASHLAND AVENUE • CHICAGO

Founders: STEIN-HALL RESEARCH FELLOWSHIP at the Institute of Paper Chemistry at Appleton, Wisc.

75 Years of Starch Service

1866 1941 75th Anniversary STEIN-HALL

New York Paper and Pulp Market Review

All Grades of Chemical Wood Pulp Now Placed On National Defense Export Control List and License Is Required — Paper Market Strong With Rising Production In Many Lines.

Office of the PAPER TRADE JOURNAL,
Wednesday, May 14, 1941.

Sales volume in the wholesale paper market continues at a record high level, with the trend upward, according to reports received from many manufacturers' representatives, jobbers, and general paper merchants during the current week. The steady rise in general business activity, created so largely by the expenditure of public funds for national defense, has stimulated many lines of consumer goods, including paper, to create the largest volume on record.

The index of business activity for the week ended May 3 rose to 123.7%, from 120.4% for the preceding week, compared with 101.5% for the corresponding week last year. Paper board production was fractionally higher.

Paper Production Reaches 100%

Paper production for the week ended May 3 was estimated at 100.1%, compared with 89.3% for 1940, with 82.4% for 1939, with 67.1% for 1938, and with 90.9% for the corresponding week for 1937.

Paper board production for the week ended May 3 was 83.0%, compared with 77.0% for 1940, with 68.0% for 1939, with 56.0% for 1938, and with 87.0% for the corresponding week for 1937.

Demand for both defense and civilian goods expanded in February, according to the Industry Survey of the Domestic of Commerce. The index value of manufacturers' new orders, all industries (January, 1939 equaling 100) was 194 for March; durable goods 286; non-durable goods, 135. The index value of manufacturers' total inventories for March, all industries, was 122.4; durable goods, 132.1; non-durable goods, 111.9. Manufacturers' inventories, all industries, was 132.1 for durable goods and 111.9 for non-durable goods; paper and allied products, 112.7. Manufacturers' shipments, all industries, was 198 for durable goods and 134 for non-durable goods.

Index Value of Paper at Peak

The index value of manufacturers' shipments of paper and allied products for March was 152, only exceeded in the non-durable goods industries by textile-mill products which was 156.

The Department of Commerce reported that the rising national income has stimulated consumer demand, not only for immediate consumption goods but for other consumer durables, such as houses, furniture, etc.

Sales volume in practically all lines of paper and paper board is reported at the highest level on record. Some quarters of the wholesale market report that some grades of paper are difficult to obtain in the desired quantities.

Prices on contract are unchanged, although some advances have occurred in spot quotations. Higher book paper prices are generally expected. In some quarters, an advance in contract prices on book paper for the third quarter, effective in July, is expected to range from $5 to $15 per ton, the lesser figure probably being confined to book paper for publications.

Chemical Pulp

All chemical wood pulp is now placed on the National Defense Export Control List and a license is required for its export. The pulp market reflects a strong position, with contract prices unchanged. Competent authorities in the trade do not now expect any important advances in contract prices in sulphite for the third quarter, although insistent demand for strong unbleached sulphite and prime grades of bleached sulphite is likely to be more pressing in the future, and this will tend to strengthen prices on the prime grades. Somewhat higher prices on all grades of kraft pulp are expected in some quarters of the pulp trade.

Imports of chemical wood pulp for the first 1941 quarter totaled 9,089 tons, all from Finland. Imports from Canada totaled 218,192 tons; groundwood, 31,080 tons.

Exports of chemical wood pulp, all grades, aggregated 90,177 tons for the first 1941 quarter, compared with 74,161 tons for the like period last year.

Rags

Moderate activity at this date is reported in the rag market, with roofing grades in good demand. No advance in prices has been reported during the week.

Old Rope and Bagging

Old Manila rope continues to be in active demand, with mills taking about all available supplies at prevailing prices.

The old bagging market is strong, with prices firm. While higher prices have been expected in this market, based in large part on limited supplies, no definite upward trend in prices is reflected in the market at this date.

Old Waste Paper

The market situation in old waste paper continues little changed at this date. Demand continues good on most grades. No important change in prices has been reported this week.

Twine

Trading in the twine market is active, with demand for most grades reported in good volume. Prices are firm with no important changes from prevailing representative market quotations.

Liberty Paper Board Strike Ends

The strike at the plant of the Liberty Paper Board Company at Steubenville, in progress for three weeks, has ended and some 150 men affected have returned to work.

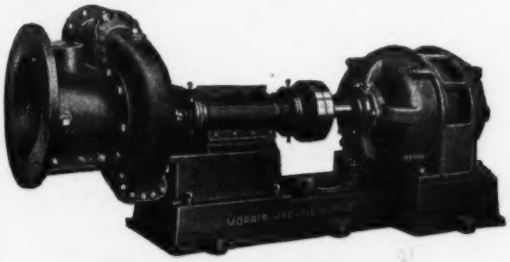
Under the settlement employees will receive an increase of 10 cents an hour, employees of over one year will receive a week's vacation with pay, while a compromise was reached over the manner of collection of union dues.

Handles Raw Waste Without Clogging

Will Not Dehydrate Stock

Maintains Capacity at Varying Heads

Guaranteed Non-Binding



MORRIS

ST-P Stock Pump

Patents Pending

MEMBER

Write for Bulletin

Morris Machine Works, Baldwinsville, N. Y.

ZOPAQUE RG

Pure TiO_2

This grade of TiO_2 shows highest developments of aqueous dispersion and suspension yet attained.

An exclusive development for the paper industry.

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FIFTY TYPES OF CAMACHINES

Only the CAMERON MACHINE COMPANY can offer the paper manufacturing and converting industry such a wide range of slitting and roll-winding machines.

There are CAMACHINES for handling tissue, others for handling board; CAMACHINES ranging in width from 18" to 310"; semi-automatic CAMACHINES for turning out small rolls and other CAMACHINES for rewinding rolls to 60 or even 72" diameter; score-cut CAMACHINES and shear-cut CAMACHINES; CAMACHINES for rewinding all rolls side by side on one shaft, also CAMACHINES with two rewinding shafts to provide positive separation by winding adjacent strips onto separate shafts; CAMACHINES with special rewind shafts for handling unevenly coated papers. Some of the latest CAMACHINES are arranged with web tension control, which makes it unnecessary to depend on the operator's skill for proper tension.

Finally, there are CAMACHINES equipped with the "electric eye" for assuring that all rolls will be wound with perfectly straight ends.

Slitting and Roll-Winding Machine Headquarters

The above means, you can select the one best fitted to your needs. Write for interesting literature today

CAMERON MACHINE COMPANY

61 Poplar St. BROOKLYN, N.Y

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL.
Wednesday, May 14, 1941.

BLANC FIXE—Quotations on blanc fixe are firm and continued unchanged at prevailing market levels. Demand reported steady for the week. The pulp is currently quoted at $35 per ton in barrels, at works; the powder is offered at $50 per ton, f.o.b., works.

BLEACHING POWDER—Prices on bleaching powder are firm with shipments reported in moderate volume for the week. Bleaching powder is currently quoted at $2 per 100 pounds, in drums, at works.

CASEIN—Quotations on casein are reported firm. Demand steady for the week. Standard domestic casein, 20-30 mesh, is currently quoted at 15 cents per pound; 80-100 mesh, at 15½ cents per pound; all prices in bags, car lots. Standard Argentina casein is currently offered at 13½ cents per pound. No quotations on French casein.

CAUSTIC SODA—Prices on caustic soda are unchanged. Demand reported good for the week. Solid caustic soda is currently quoted at $2.30 per 100 pounds; flake and ground at $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—Quotations on china clay are firm and continue unchanged this week. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay at from $12 to $22 per ton, at mines. Imported clay is quoted at from $13 to $25 per long ton, ship side.

CHLORINE — The demand for chlorine is reported active. Prices are firm and the market strong for the current week. Chlorine is currently quoted at $1.75 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—Quotations on most grades of rosin are higher for the week. "G" gum rosin is currently quoted at $1.87 per 100 pounds, in barrels, Savannah. "FF" wood rosin is currently quoted at $1.87 per 100 pounds, in barrels, New York. Seventy per cent gum rosin size is quoted at $2.55 per 100 pounds, f.o.b., works.

SALT CAKE—Prices on salt cake are firm under a good demand with current quotations continuing nominal. Domestic salt cake is currently quoted at $17 per ton in bulk; chrome salt cake at $16 per ton. All prices in car lots, f.o.b., shipping point. The quotation of $16.50 per ton on imported salt cake continues nominal.

SODA ASH—Quotations on soda ash are firm and continue to conform to prevailing market quotations. Shipments reported steady. Quotations on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Prices on corn starch are firm and continue unchanged for the current week. Pearl is currently quoted at $3 per 100 pounds; powered starch at $3.10 per 100 pounds; all prices in bags, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations on sulphate of alumina are firm. Shipments reported in good volume for the week. The commercial grades are currently quoted at $1.15 per 100 pounds; iron free at $1.60 per 100 pounds, in bags, car lots, f.o.b., works.

SULPHUR—Prices on sulphur are firm and continue to conform to prevailing market quotations. Annual contracts are currently quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are quoted at $19 per ton.

TALC—Quotations on talc are firm and continue unchanged at prevailing market prices. Domestic talc is currently quoted at from $15 to $21 per ton, at mills. No quotations on imported talc.

MARKET QUOTATIONS

Paper

(Delivered New York)

News, per ton—			
Roll, contract	$50.00	@	—
Sheets	58.00	"	—
Kraft—per cwt.—Delivered Zone A			
Northern, Extra Quality	$5.25	@	$6.00
Superstandard	4.87½	"	5.25
Northern Standard Wrapping	4.50	"	5.00
Standard Wrapping	4.50	"	—
Tissues—Per Ream—Carlots			
White No. 1	.97½	"	—
White No. 1 M. G.	.95	"	—
White No. 1½	.80	"	—
White No. 2	.75	"	—
Anti-Tarnish M. G.	.80	"	—
Colored	.85	"	—
Kraft	.87½	"	—
Manila	.77½	"	—
Unbl. Toilet, 1 M.	3.75	"	—
Bleached Toilet	5.26	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.10	"	—
Bleached, Jr.	3.60	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	8.75	@	10.75
No. 1 Manila Wrapping, 35 lb.	5.50	"	5.75
No. 2 Manila Wrapping, 35 lb.	5.25	"	5.50
Boards, per ton—			
News	45.00	@	—
Chip	45.00	"	—
Sgl. Mla. Lt. Chip	60.00	"	—
White Pat. Coated	75.00	"	—
Kraft Liners	55.00	"	—
Binders Boards	80.00	"	—

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers	
100% Rag Ext. No. 1	$39.10 @	$46.00	$40.25 @	$47.25
100% Rag	31.05 "	36.50	32.20 "	37.75
85% Rag	.... "	....	29.90 "	35.00
75% Rag	23.60 "	27.75	24.75 "	29.00
65% Rag	.... "	....	21.65 "	26.25
50% Rag	17.55 "	21.50	18.70 "	22.75
25% Rag	14.65 "	17.75	15.80 "	19.25

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds		Ledgers	
No. 1	$9.35 @	$11.50	$11.55 @	$12.75
No. 2	8.50 "	10.25	9.65 "	11.75
No. 3	8.05 "	9.25	9.20 "	11.25
No. 4	7.70 "	9.50	8.90 "	10.75

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper.

Delivered in Zone 1:

No. 1 Glossy Coated	$11.90	@	$13.50
No. 2 Glossy Coated	10.35	"	11.75
No. 3 Glossy Coated	9.55	"	11.00
No. 4 Glossy Coated	9.15	"	10.50
No. 1 Antique (watermarked)	9.05	"	10.50
No. 2 Offset	8.40	"	9.75
A Grade E. F.	8.20	"	9.50
A Grade S. & S. C.	8.45	"	9.75
B Grade E. F.	7.65	"	8.75
B Grade S. & S. C.	7.90	"	9.00
C Grade E. F.	7.35	"	8.50
C Grade S. & S. C.	7.60	"	8.75
D Grade E. F.	7.10	"	8.25
D Grade S. & S. C.	7.35	"	8.50

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	No prices		
Dry	No prices		
(Delivered)			
No. 1 Domestic and Canadian	40.00	@	42.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	3.72½	@	3.87½
Prime Qualities— Easy-Bleaching Sulphite	3.17½	"	3.75
Strong Unbleached Sulphite	3.17½	"	3.75
News Grade, delivered Unbleached Sulphite	61.00	"	64.25
(On Dock, Atlantic Ports)			
Kraft Bleached	4.12½	"	—
Kraft Light & Strong	3.75	"	4.15
Kraft No. 1	3.60	"	4.00
(F. o. b. Pulp Mill)			
Kraft Domestic and Canadian	2.75	"	3.37½
(Delivered)			
Soda Bleached	3.30	"	—

Add 60 cents per short ton, dock charges for Albany; $2.50 for Lake Ports East and $3.50 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1.	6.00	@	6.25
Silesias No. 1	4.25	"	4.50
New Unbleached	6.00	"	6.25
Blue Overall	4.25	"	4.50
Fancy	2.25	"	2.50
Washables	2.00	"	2.15
Mixed Khaki Cuttings	2.50	"	2.75
O. D. Khaki Cuttings	3.00	"	3.15

Old Rags

White, No. 1—			
Repacked	3.10	"	3.35
Miscellaneous	2.35	"	2.65
White, No. 2—			
Repacked	2.50	"	2.75
Miscellaneous	2.00	"	2.25
Thirds and Blues—			
Repacked	1.25	"	1.35
Miscellaneous	1.10	"	1.25
Roofing Rags—			
No. 1	1.30	"	1.35
No. 2	1.20	"	1.25
No. 3 (bagging)	.95	"	1.00
No. 4	.90	"	.95
No. 5A	.90	"	.95

Foreign Rags

All prices nominal.

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.35

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—

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?

Do you want to know How and Where to secure paper mill tanks that cost less, give better and cleaner service — and last longer? The answer is in Kalamazoo!

Manufacturers of wood tanks for 60 years.

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KALAMAZOO, MICHIGAN

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Frederick

STOCK PUMPS

EXTRA heavy shafts made of chrome heat-treated steel are carried in long babbitted sleeve bearings arranged for ring oiling . . . Non-clog impeller wheel is specially designed to permit easy flow of heavy stock . . . Patented adjustable liner plates on front and rear sides of the impeller make adjustment or replacement easy . . . Extra long packing box houses; twice the usual number of rows of packing.

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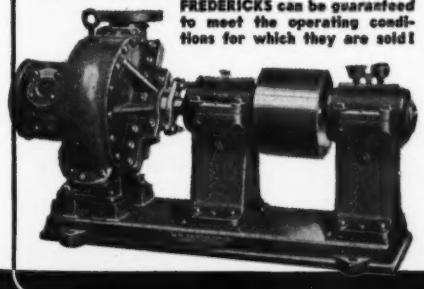

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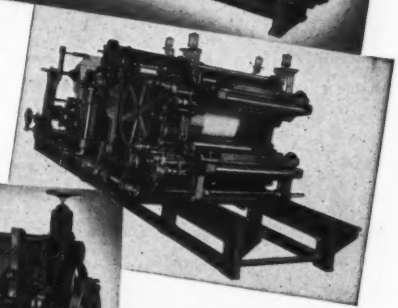
FREDERICK, MARYLAND

High Production Calls For

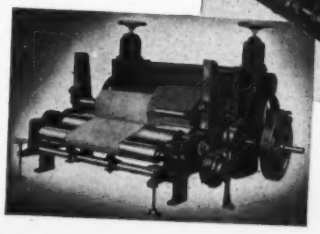
MODERN MACHINES

Toilet Roll Rewinder

Printing Press for printing both sides of web



General Purpose Embosser



The above machines represent only a few of our varied line. Write us regarding your requirements for paper converting machinery.

PAPER CONVERTING MACHINE CO.
GREEN BAY, WISCONSIN
Manufacturers of paper converting machinery for all purposes.

No. 4 White Linens.	2.25	@	3.25
No. 1 White Cotton.	4.25	"	4.75
No. 2 White Cotton.	3.25	"	3.75
No. 3 White Cotton.	2.50	"	3.00
No. 4 White Cotton.	1.90	"	2.20
Extra Light Prints..	2.00	"	2.40
Ord. Light Prints...	1.75	"	2.15
Med. Light Prints...	1.55	"	1.95
Dutch Blue Cottons.	2.25	"	2.50
French Blue Linens.	3.00	"	—
Checks and Blues...	2.00	"	—
Linsey Garments....	1.90	"	2.00
Dark Cottons.....	1.50	"	1.60
Old Shopperies.....	1.30	"	1.45
New Shopperies....	1.45	"	1.50
French Blues.....	2.25	"	2.50

Old Rope and Bagging

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.25	@	3.50
Wool Tares, light....	2.50	"	2.75
Wool Tares, heavy..	2.50	"	2.75
Bright Bagging.....	3.15	"	3.30
Manila Rope—			
Foreign	5.50	"	5.75
Domestic	5.50	"	5.75
Jute Threads.....	2.75	"	3.00
Sisal Strings	2.10	"	2.35
Mixed Strings.....	1.10	"	1.20

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	3.10	@	3.25
Ordinary Hard White No. 1....	2.60	"	2.75
Soft White No. 1..	2.25	"	2.35
Soft White Extra..	2.70	"	2.85
Flat Stock—			
Stitchless	1.10	"	1.25
Overissue Mag.....	.90	"	1.00
Solid Flat Book...	.90	"	.95
Crumbled No. 1 ..	.70	"	.75
Ledger White Stock.	1.65	"	1.75
Ledger Stock Colored	1.20	"	1.30
Manila—			
New Env. Cut....	1.70	"	1.80
New Cuttings.....	1.80	"	1.90
Old Kraft Machine Compressed bales..	1.35	"	1.50
News—			
No. 1 White News	1.50	"	1.60
Strictly Overissue..	.96	"	1.00
Strictly Folded....	.60	"	.65
Corrugated	.60	"	.62½
No. 1 Mixed Paper..	.42½	"	.47½

Twines

(F. o. b. Mill)

(Soft Fiber)			
Coarse Polished—			
India	.19½	@	—
White Hemp	.19½	"	—
Fine Polished—			
Fine India.....	.22½	"	—
Unpolished—			
Box	.15¾	"	—
Paper Makers.....	.15½	"	—
Tube Rope.....	.16¾	"	—
Wall Paper.....	.19½	"	—
Wrapping	.19½	"	—
Soft Fiber Rope...	.17½	"	—
Cotton	.24	"	—
(Hard Fiber)			
Medium Java.....	.12	"	—
Mex. Sisal.....	.11	"	—
Manila	.25	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White No. 1.	.06½	@	.06¾
New White No. 2.	.03½	"	.04
Light Silesias.....	—	"	.04½
Silesias, No. 1....	—	"	.04
Black Silesias, soft	—	"	.03
New Unbleached..	.06	"	.06¾
Washable Prints..	.02½	"	.03
Washable No. 1..	—	"	.01½
Blue Overall.....	.04	"	.04½
Cottons—According to grades—			
Washable shredding	—	"	.01½
Fancy Percales....	.03	"	.03¼
New Black Soft...	.02½	"	.02¾
New Light Seconds	—	"	.04
New Dark Seconds	—	"	1.50
Khaki Cuttings—			
No. 1 O. D.....	.03	"	.03¼
No. 2 Mixed.....	.01¾	"	.02
Corduroy	.01¾	"	.01½
New Canvas.....	.04½	"	.05
New Black Mixed.	—	"	.02¼

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	"	3.00
Thirds and Blues—			
Miscellaneous	1.35	"	1.50
Repacked	1.55	"	1.65
Black Stockings (Export)	Nominal		
Roofing Stock—			
Foreign No. 1....	Nominal		
Domestic No. 1...	1.30	"	1.35
Domestic No. 2...	1.10	"	1.15
Roofing Bagging..	1.00	"	1.05

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	3.25	@	3.50
Domestic	3.00	"	3.25
Manila Rope.....	—	"	5.50
Sisal Rope.....	2.00	"	2.25
Mixed Rope.....	.75	"	1.00
Scrap—			
No. 1.....	3.00	"	3.25
No. 2.....	—	"	1.50
Wool Tares, heavy..	3.75	"	4.00
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.25	"	3.50

Old Papers

(F. o. b. Phila.)

Shavings—			
Hard White Special	2.50	@	2.70
Hard White.....	2.35	"	2.40
No. 1 Soft White..	1.90	"	2.00
No. 2 White.....	1.70	"	1.85
No. 1 Mixed.....	.90	"	1.00
Solid Ledger Stock..	1.90	"	2.00
Ledger Stock, white.	1.50	"	1.60
Ledger Stock, colored	1.25	"	1.30
No. 1 Books, heavy..	.85	"	.90
Manila Cuttings.....	1.75	"	1.80
Print Manila.....	.60	"	.65
Container Manila....	.50	"	.55
Kraft Paper	1.40	"	1.45
No. 1 Mixed Paper..	.45	"	.50
Straw Board Chip...	.45	"	.50
Binders Board Chip..	.35	"	.40
Corrugated Board...	.60	"	.65
Overissue News.....	.85	"	.90
Old Newspapers.....	.60	"	.65

BOSTON

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.15	@	3.25
No. 1 Soft White	2.50	"	2.75
No. 2 Mixed.....	.90	"	1.00
Solid Ledger Books..	2.00	"	2.10
Overissue Ledger Stock	1.75	"	2.00
White Ledger Stocks	1.50	"	1.65
Mixed Ledgers	1.25	"	—
No. 1 Heavy Books	1.10	"	1.20
No. 1 Books, Light..	.75	"	.85
Crumpled Stitchless Book Stock	1.15	"	1.20
Manila Env. Cuttings	2.55	"	2.65
Manila Envelope Cuttings, extra quality	2.65	"	2.75
White Blank News..	1.70	"	1.80
No. 1 Kraft.....	1.35	"	1.45
Extra No. 1 Kraft..	1.75	"	—
Mixed Papers.....	—	"	.40
Print Manila	.60	"	.65
Container Manila....	.60	"	.70
Old Newspapers.....	.47½	"	.52½
Paper Wool Strings.	.95	"	1.15
Overissue News.....	.65	"	.70
Box Board Chips....	.35	"	—
Corrugated boxes....	.55	"	.65
Kraft corrugated boxes	1.15	"	1.25
New Kraft Corrugated Cuttings	1.75	"	2.00
Screening Wrappers.	.85	"	.90

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	3.75	@	4.00
Sisal Rope.....	2.60	"	2.75
Mixed Rope	.85	"	1.00
Transmission Rope—			
Foreign	(nominal)		
Domestic	2.75	"	3.00
Soft Jute Rope.....	4.25	"	4.75
Manila Rope—			
Foreign .....(nominal)			
Domestic	5.75	"	6.00
Jute Carpet Threads.	3.00	"	3.25
Bleachery Burlap....	5.00	"	5.50
Scrap Burlap—			
Foreign	(nominal)		
Domestic	3.25	"	3.75
Scrap Sisal.....	2.75	"	3.00
Scrap Sisal for Shredding	2.50	"	2.60
Wool Tares—			
Foreign	(nominal)		
Domestic	2.85	"	3.00
Aust. Wool Pouches.	3.25	"	3.50
New Burlap Cuttings	4.00	"	4.25
Heavy baling bagging	3.25	"	3.50
Paper Mill Bagging..	2.75	"	3.00
No. 2 Bagging.....	.75	"	.80

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	—	@	.03
Fancy Percales....	.03¾	"	4.00
New White No. 1.	.06	"	.06¼
New Light Flannelettes	.03¾	"	4.00
Canton Flannel, Bleached	.06	"	—
Underwear Cutters, Bleached	.05	"	.05¼
Silesias No. 1.....	.04	"	.04¾
New Black Silesias..	3.00	"	3.25
Red Cotton Cuttings	.04	"	.05
Soft Unbleached....	.06	"	.06¼
Blue Cheviots.....	.04¼	"	.04½
Fancy	.01½	"	.01¾
Washable	.01½	"	.01¾
Cottons—According to Grades—			
Blue Overalls.....	.04	"	.04¼
New Black, Soft..	.03	@	.03¼
Khaki Cuttings.....	.02	"	.02¼
O. D. Khaki.....	.02½	"	.03¼
Corduroy	.02	"	—
New Canvas.....	.05½	"	—
B. V. D. Cuttings...	.06	"	.06¼

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	2.75	@	3.00
Miscellaneous	2.00	"	2.25
White No. 2—			
Repacked	1.90	"	2.00
Miscellaneous	2.00	"	2.25
Twos and Blues.....	2.00	"	2.25
Old Blue Overalls...	1.60	"	2.00
Thirds and Blues....	1.25	"	—
Miscellaneous	1.25	"	1.35
Black Stockings.....	3.50	"	4.00
Roofing Stock—			
No. 1.....	1.20	"	1.25
No. 2.....	.95	"	1.00
No. 3.....	.85	"	.95

Foreign Rags

(F. o. b. Boston)

Canvas .....(nominal)	
Dark Cottons.....(nominal)	
Dutch Blues.....(nominal)	
New Checks and Blues(nominal)	
Old Fustians.....(nominal)	
Old Linsey Garments.(nominal)	
New Silesias.....(nominal)	

CHICAGO

Waste Paper

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings....	3.15	@	—
No. 1 Hard White	2.50	"	2.65
No. 1 Soft White.	2.00	"	2.20
Ledger and Writings	.85	"	.95
Solid Books.....	.83	"	—
Blanks	1.45	"	—
Kraits	1.40	@	1.50
New Kraft Cuts....	1.60	"	1.75
Overissue News.....	.60	"	—
Old Newspapers—			
No. 1 Folded News	.70	"	.80
No. 1 Mixed Paper	.45	"	—
Roofing Stocks—			
No. 1.....	.95	"	1.00
No. 2.....	.85	"	.90

W. M. Carney Speaks on New Tax Bill

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 14, 1941—William M. Carney, controller of the Scott Paper Company appeared early this week before the House Committee on Ways and Means in connection with the new tax bill.

He asked the committee not to penalize the growth of industrial companies. He said that his company has increased its sales materially since 1934. He called attention to the fact that raw materials and other costs going to materials for paper making have increased since the present national defense program began.

Paper and Cordage Golf Plans

PHILADELPHIA, Pa., May 5, 1941—E. L. Richards, chairman of the golf committee of the Philadelphia Paper and Cordage Association, has completed the schedule for the season, which was opened on April 23 with play at the Riverton Country Club, with J. D. Clark as host. Tournaments for the year include the following: May 21, Philadelphia Cricket Club, Butler Smythe, host; July 17, Manufacturers Country Club, Oreland, Pa.; July 15, St. Davids Golf Club, Hugo H. Hansom, host; August 20, Old York Road Country Club, Morgan H. Thomas, host; September 17, Aronimink Country Club, Arthur Sherill, host. The final tournament will be held on October 17 at Pine Valley, with Ed. Weihenmayer, Jr., as host.